

حمل الآن

مجاناً وحصرياً

المراجعة رقم (1)

اختبار شهر ابريل





Test

1

1 Choose the correct answer from those given :

(1) The solution set of the inequalities : $x \geq 0$, $y \geq 0$, $x + y \leq 4$ is the triangle whose vertices are the points

- (a) (0 , 4) , (0 , 0) , (4 , 4) (b) (0 , 0) , (4 , 0) , (0 , 4)
(c) (4 , 4) , (0 , 4) , (4 , 0) (d) (0 , 0) , (4 , 0) , (4 , 4)

(2) Which of the following points belongs to the region of S.S. of the two inequalities $x + y \leq 6$ and $x - y \geq 7$?

- (a) (6 , 0) (b) (3 , 4) (c) (0 , 0) (d) (3 , -5)

(3) A circular sector whose perimeter is 8 cm. and its arc length is 2 cm. , then its area = cm^2

- (a) 3 (b) 6 (c) 4 (d) 16

(4) The area of the triangle with the vertices A (0 , 4) , B (5 , 2) , C (6 , 1) equals square units.

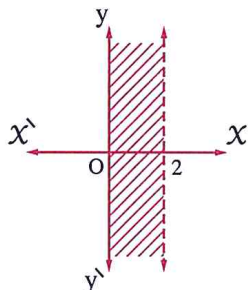
- (a) 7 (b) 1.5 (c) 3.5 (d) 6

(5) The area of the minor circular segment in which its height is 5 cm. and its radius length is 13 cm. $\approx$ cm^2

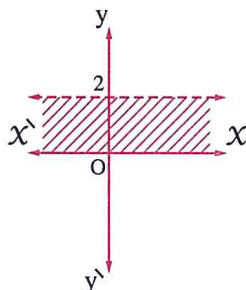
- (a) 55 (b) 68 (c) 63 (d) 71

(6) Which of the following figures represents the solution set of the inequality :

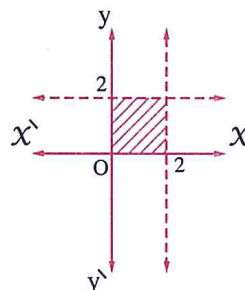
$$0 \leq x < 2 \text{ in } \mathbb{R} \times \mathbb{R} ?$$



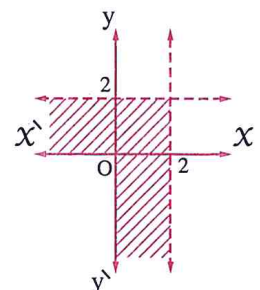
(a)



(b)



(c)



(d)

(7) The set of values of k that makes the measure of the included angle between the two straight lines $x + ky - 8 = 0$ and $2x - y - 5 = 0$ equals $\frac{\pi}{4}$ is

- (a) $\left\{3, -\frac{1}{3}\right\}$ (b) $\left\{-3, \frac{1}{3}\right\}$ (c) $\left\{3, \frac{1}{3}\right\}$ (d) $\{3\}$

(8) The straight line whose equation is : $\vec{r} = (-1, 3) + k(2, 4)$ passes through the point

- (a) (2, 4) (b) (1, 5) (c) (-3, -1) (d) (0, 2)

(9) The area of the triangle bounded by X-axis and y-axis and the straight line : $2X + 3y = 6$ equals square units.

- (a) 6 (b) 3 (c) 2 (d) 12

(10) If $\vec{u} = (\frac{1}{2}, 1)$ is the direction vector of a straight line , then all the following vectors are perpendiculars to the straight line except

- (a) $(1, -\frac{1}{2})$ (b) (2, -1) (c) $(-1, -\frac{1}{2})$ (d) (4, -2)

(11) The straight line that passes through the point (2, 1) and the vector $\vec{n} = (1, 3)$ is perpendicular to it , then its equation is

- (a) $X + 2y + 5 = 0$ (b) $X + 3y - 5 = 0$ (c) $X - 3y = 0$ (d) $3X - y - 5 = 0$

(12) The measure of the acute angle between the straight line whose equation is $\vec{r} = (2, 2) + t(1, 1)$ and the straight line whose equation is $X = 0$ equals

- (a) 45° (b) 30° (c) 60° (d) 135°

2 Answer the following two questions :

(1) Find the different forms of the equation of the straight line which passes through the point (1, 3) and is perpendicular to the straight line : $\vec{r} = (2, 5) + k(-2, 1)$

(2) Represent graphically the solution set of the following inequalities together :

$$X \leq 4, \quad y < X + 2, \quad X + 2y \geq -2 \text{ in } \mathbb{R} \times \mathbb{R}$$

Test

2

1 Choose the correct answer from those given :

(1) The measure of the included angle between the two straight lines :

$$\vec{r} = (3, 1) + k(2, 1) \text{ and } 2X + y + 5 = 0 \text{ equals } \dots\dots\dots$$

- (a) 60° (b) $54^\circ 13'$ (c) 90° (d) 72°

(2) The cartesian equation of the straight line that intercepts 2 and 3 units of the positive parts of X-axis and y-axis respectively is

- (a) $2X + 3y = 1$ (b) $3X + 2y = 1$ (c) $2X + 3y = 6$ (d) $3X + 2y = 6$

(3) If the slope of $\overleftrightarrow{AB}$ equals $\frac{1}{2}$ and A (- 2 , 5) , then which of the following points does lie on $\overleftrightarrow{AB}$?

- (a) (0 , 6) (b) $\left(1 , \frac{13}{4} \right)$ (c) (2 , 6) (d) (6 , 4)

(4) The radius length of a circle is r cm. If the perimeter of a circular sector of this circle is (2 r + 8) cm. , then the area of this sector = cm^2 .

- (a) r^2 (b) $4 r^2$ (c) $8 r^2$ (d) 4 r

(5) In the cartesian coordinate , the region representing the solution set of the inequalities $x \geq 0$, $y \geq 0$, $x + y \leq 4$ is a

- (a) circle. (b) square. (c) rectangle. (d) triangle.

(6) The direction vector of the straight line perpendicular to the straight line : $3x - y + 5 = 0$ is

- (a) (1 , 3) (b) (- 1 , 3) (c) (3 , - 1) (d) (- 3 , - 1)

(7) The equation of the axis of symmetry of $\overline{AB}$ where A (2 , - 1) , B (4 , 3) is

- (a) $x + 2y = 0$ (b) $x + 2y = 5$ (c) $2x - y = 5$ (d) $x - 2y = 5$

(8) The sum of the roots of the equation $\begin{vmatrix} x & 1 & 4 \\ 0 & x+1 & 2 \\ 0 & 0 & 2-x \end{vmatrix} = 0$ equals

- (a) - 2 (b) 1 (c) 0 (d) - 1

(9) The straight line L : $x = 1 - 2k$, $y = - 1 + 4k$ passes through the point

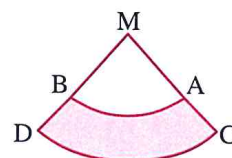
- (a) (1 , 1) (b) (1 , - 1) (c) (- 1 , - 1) (d) (- 1 , 1)

(10) In the opposite figure :

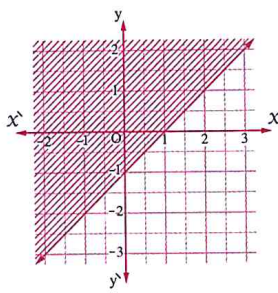
MA = 2 AC , the area of the circular sector MAB = 12 cm^2

, then the area of the shaded region = cm^2

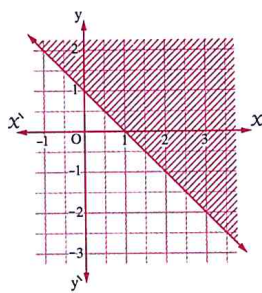
- (a) 10 (b) 12
(c) 14 (d) 15



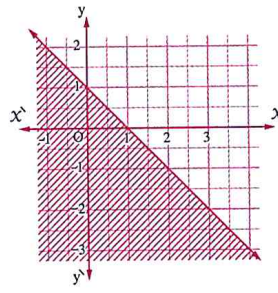
(11) Which of the following figures represents the S.S. of the inequality $x + y \geq 1$?



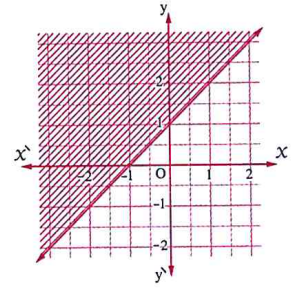
(a)



(b)



(c)



(d)

(12) If (a, b) belongs to the solution set of the inequality $x + 2y \geq 5$ where a, b are integers, then the least value of $2a + 4b = \dots\dots\dots$

(a) 5

(b) -5

(c) 10

(d) 6

2 Answer the following two questions :

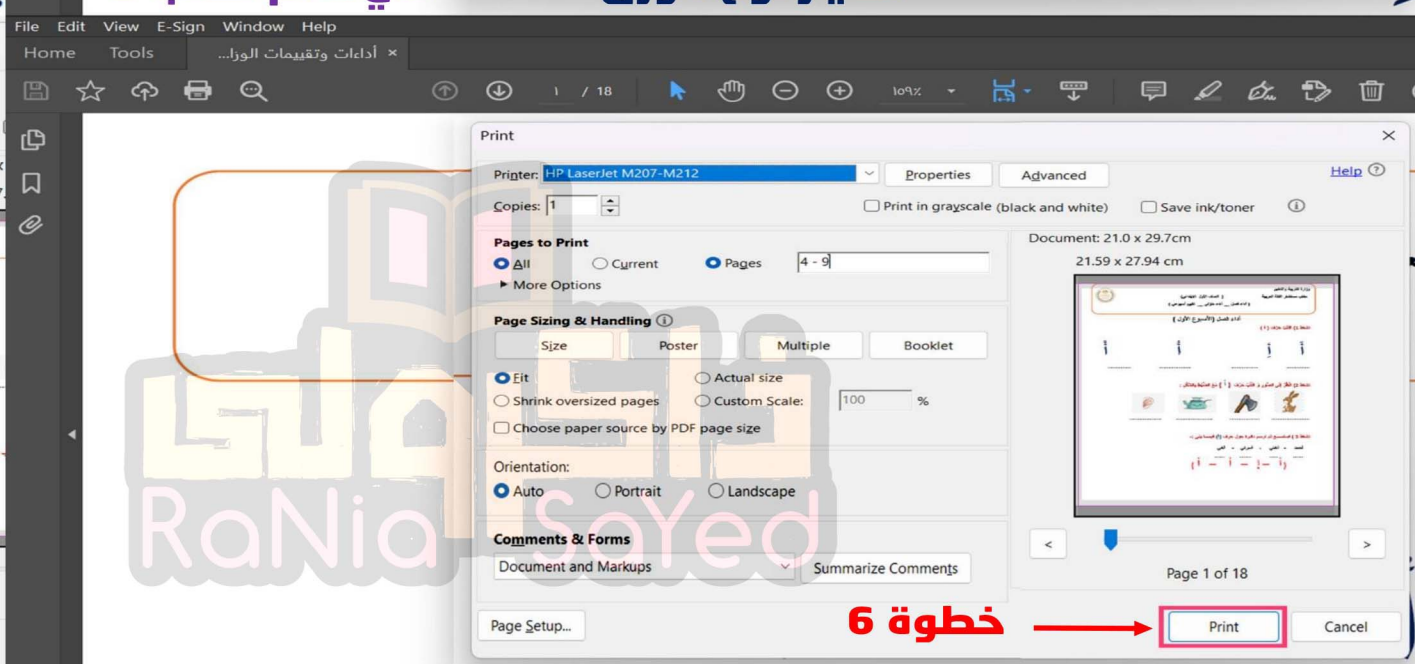
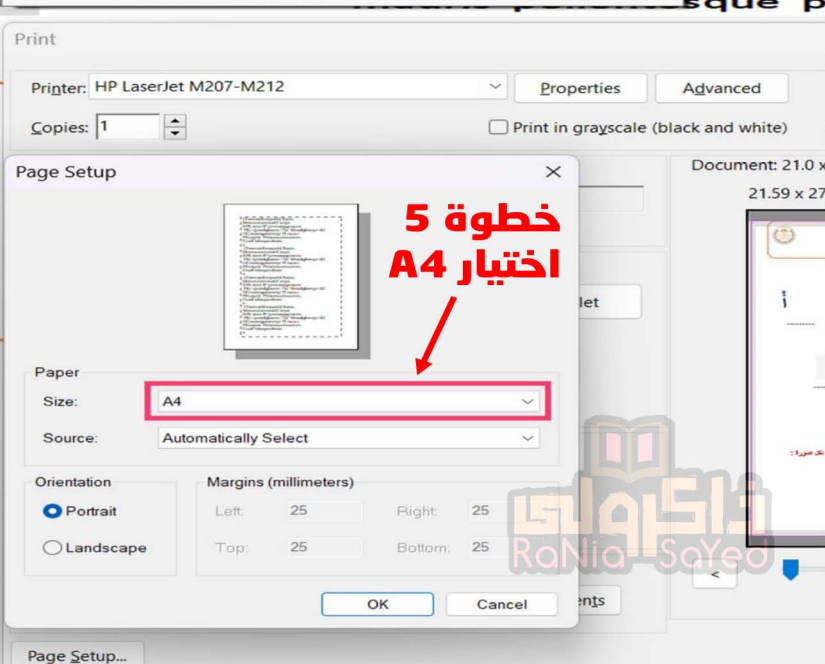
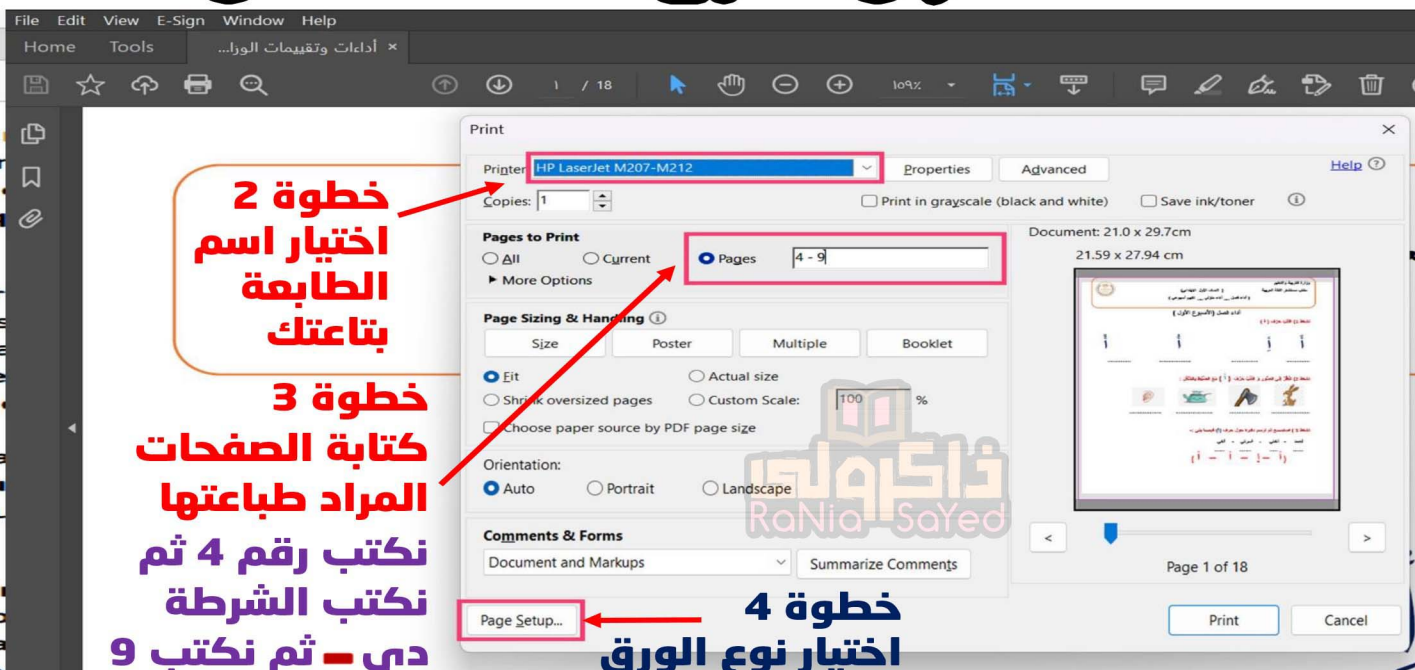
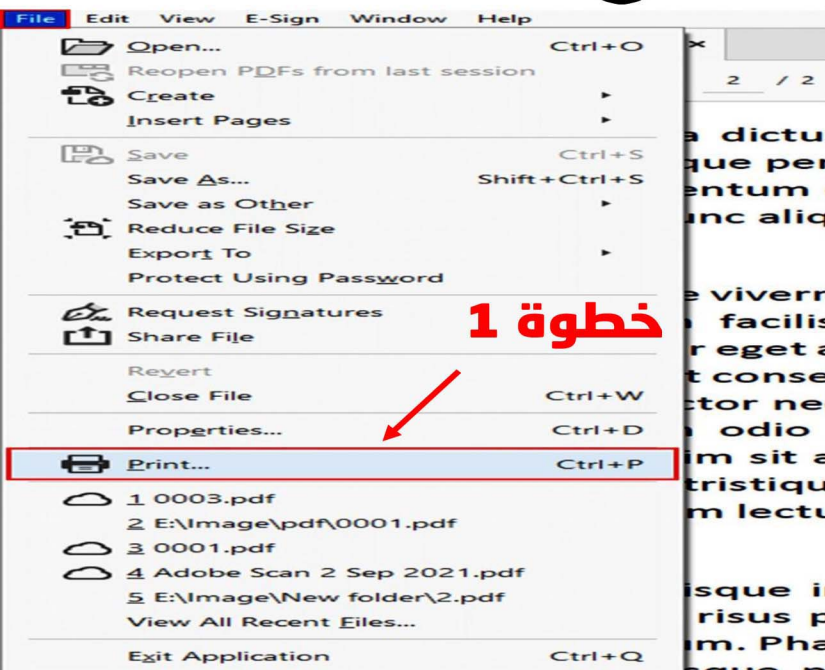
(1) In triangle ABC, $A = (0, 5)$, $B = (2, -1)$, $C = (6, 3)$

Prove that : the triangle is an isosceles triangle, then find the measure of angle A

(2) Find graphically the solution set of the system of the linear inequalities

$$x \geq 0, y \geq 0, 0 \leq x \leq 3, x \geq y$$

كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9



حمل الآن

مجاناً وحصرياً

المراجعة رقم (2)

اختبار شهر ابريل





اداءات ونقييمات لمنهج الرياضيات

للفصل الاول الثانوي لفات

الفصل الدراسي الثاني

للعام الدراسي 2026 / 2025

الاسبوع السابع

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First Algebra:

1) Prove that $\begin{vmatrix} 3 & 2 & 1 \\ 6 & 4 & -1 \\ 2 & 5 & 3 \end{vmatrix} = \begin{vmatrix} 3 & 6 & 2 \\ 2 & 4 & 5 \\ 1 & -1 & 3 \end{vmatrix}.$



L.H.S = $\begin{vmatrix} 3 & 2 & 1 \\ 6 & 4 & -1 \\ 2 & 5 & 3 \end{vmatrix}$

replace r_1 with c_1 .
 r_2 with c_2
 r_3 with c_3

$$\begin{vmatrix} 3 & 6 & 2 \\ 2 & 4 & 5 \\ 1 & -1 & 3 \end{vmatrix}$$



2) Without expanding the determinant find the value of $\begin{vmatrix} 2 & 1 & 5 \\ 3 & 0 & 4 \\ 2 & 1 & 5 \end{vmatrix}$.

$$r_1 = r_3$$

determinant = zero

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4) If $\begin{vmatrix} a & d & m \\ b & e & n \\ c & h & z \end{vmatrix} = 15$, find the value of $\begin{vmatrix} 3a & d & 2m \\ 3b & e & 2n \\ 3c & h & 2z \end{vmatrix}$.

$$\begin{vmatrix} 3a & d & 2m \\ 3b & e & 2n \\ 3c & h & 2z \end{vmatrix} = 3 \times 2 \begin{vmatrix} a & d & m \\ b & e & n \\ c & h & z \end{vmatrix}$$

$$= 3 \times 2 \times 15 \\ = 90$$



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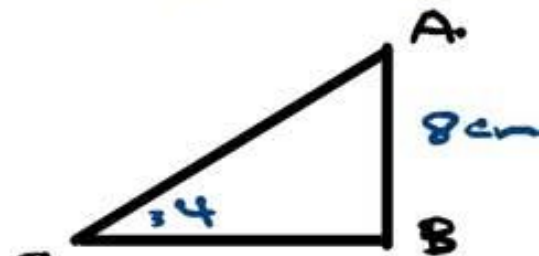
Second Trigonometry:

5) Solve the right angled triangle ABC at B, in which $AB = 8 \text{ cm}$, $m(\angle C) = 34^\circ$.

$$m(\angle A) = 180 - (90 + 34) \\ = 52$$

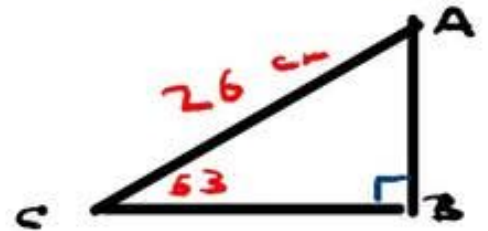
$$\sin 34 = \frac{8}{AC} \Rightarrow AC = 14.3 \text{ cm}$$

$$\tan 34 = \frac{8}{BC} \Rightarrow BC = 11.8 \text{ cm}$$



- 6) Solve the right angled triangle ABC at B, in which $AC = 26\text{cm}$, $m(\angle C) = 53^\circ$.

$$m(\angle A) = 180 - (90 + 53) \\ = 37^\circ$$



$$\sin 53 = \frac{AB}{26} \Rightarrow AB = 20.7 \text{ cm}$$

$$\cos 53 = \frac{BC}{26} \Rightarrow BC = 15.6 \text{ cm}$$



Third Geometry:

7) Find the slope of the straight line passes by the two points (3, 5), (-2, 1).

$$\begin{aligned} \text{slope} &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{1 - 5}{-2 - 3} \\ &= \frac{-4}{-5} \\ &= \frac{4}{5} \end{aligned}$$



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8) Find the slope of the straight line which parallel to the straight line whose equation $5x - y + 3 = 0$

$$\text{slope} = \frac{-5}{-1} \\ = 5$$



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9) Find the equation of the straight line passes by the point $(3, 2)$, and its direction vector is $\vec{d} = (3, 2)$.

$$r = (3, 2) + k (3, 2)$$



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10) Find the parametric equations of the straight line passes by the point $(1, 4)$, and its direction vector is $\vec{d} = (2, 5)$.

$$\vec{r} = (1, 4) + k(2, 5)$$

$$x = 1 + 2k$$

$$y = 4 + 5k$$



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First Algebra:

1) Prove that $\begin{vmatrix} 2 & -4 & 5 \\ 1 & 2 & -3 \\ 7 & 1 & 0 \end{vmatrix} = \begin{vmatrix} 2 & 1 & 7 \\ -4 & 2 & 1 \\ 5 & -3 & 0 \end{vmatrix}$.

L.H.S = $\begin{vmatrix} 2 & -4 & 5 \\ 1 & 2 & -3 \\ 7 & 1 & 0 \end{vmatrix}$

$\Rightarrow \begin{vmatrix} 2 & 1 & 7 \\ -4 & 2 & 1 \\ 5 & -3 & 0 \end{vmatrix}$

replace r_1 with c_1
 r_2 with c_2
 r_3 with c_3





2) Without expanding the determinant find the value of $\begin{vmatrix} 1 & 2 & 1 \\ 5 & 0 & 5 \\ 4 & 7 & 4 \end{vmatrix}$.

$$C_1 = C_3$$

determinant = zero



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3) Without expanding the determinant find the value of $\begin{vmatrix} 0 & 0 & 0 \\ 3 & 2 & 7 \\ 2 & -1 & 5 \end{vmatrix}$.

$$r_1 = 0$$

determinant = zero



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4) If $\begin{vmatrix} a & d & m \\ b & e & n \\ c & h & z \end{vmatrix} = 6$, find the value of $\begin{vmatrix} -2a & -2d & -2m \\ b & e & n \\ 4c & 4h & 4z \end{vmatrix}$.

Value = $\begin{vmatrix} -2a & -2d & -2m \\ b & e & n \\ 4c & 4h & 4z \end{vmatrix} = -2 \times 4 \begin{vmatrix} a & d & m \\ b & e & n \\ c & h & z \end{vmatrix}$

$= -2 \times 4 \times 6$

$= -48$



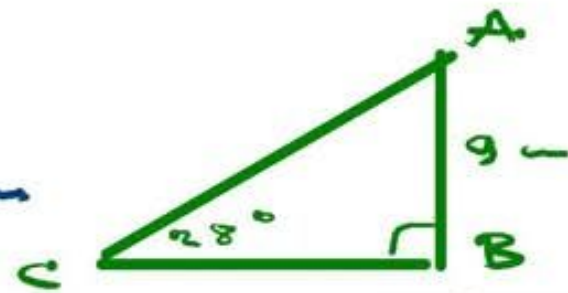
Second Trigonometry:

5) Solve the right angled triangle ABC at B, in which $AB = 9 \text{ cm}$, $m(\angle C) = 28^\circ$.

$$m(\angle A) = 180 - (90 + 28) \\ = 62$$

$$\sin 28 = \frac{9}{AC} \Rightarrow AC = 19.2 \text{ cm}$$

$$\tan 28 = \frac{9}{BC} \Rightarrow BC = 17 \text{ cm}$$



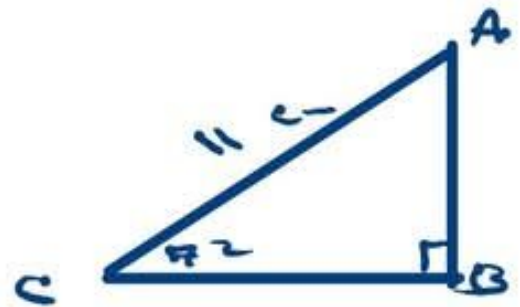


6) Solve the right angled triangle ABC at B, in which $AC = 11\text{cm}$, $m(\angle C) = 72^\circ$.

$$\begin{aligned} m(\angle A) &= 180 - (90 + 72) \\ &= 18^\circ \end{aligned}$$

$$\sin 72 = \frac{AB}{11} \Rightarrow AB = 10.4 \text{ cm}$$

$$\cos 72 = \frac{BC}{11} \Rightarrow BC = 3.4 \text{ cm}$$



Third Geometry:

7) Find the slope of the straight line passes by the two points (1, -2), (3, 4).

$$\begin{aligned} \text{slope} &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{4 - (-2)}{3 - 1} \\ &= 3 \end{aligned}$$



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8) Find the slope of the straight line which parallel to the straight line whose equation $4x + 2y + 7 = 0$

$$\begin{aligned}\text{slope} &= \frac{-4}{2} \\ &= -2\end{aligned}$$



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9) Find the equation of the straight line passes by the point $(4, -7)$, and its direction vector is $\vec{d} = (0, 2)$.

$$r = (4, -7) + k(0, 2)$$



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- 10) Find the parametric equations of the straight line passes by the point $(3, -2)$, and its direction vector is $\vec{d} = (4, -2)$.

$$r = (3, -2) + k(4, -2)$$

$$x = 3 + 4k$$

$$y = -2 - 2k$$



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First Group:

- 1) Without expanding the determinant, find the value of $\begin{vmatrix} 7 & -1 & 1 \\ 2 & 3 & 5 \\ 2 & 3 & 5 \end{vmatrix}$.

$$\therefore r_2 = r_3$$

$$\therefore \text{determinant} = \text{Zero}$$



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2) If $\begin{vmatrix} a & d & m \\ b & e & n \\ c & h & z \end{vmatrix} = 8$, find the value of $\begin{vmatrix} 3a & d & -2m \\ 3b & e & -2n \\ 3c & h & -2z \end{vmatrix}$.

$$\begin{vmatrix} 3a & d & -2m \\ 3b & e & -2n \\ 3c & h & -2z \end{vmatrix} = 3 \times -2 \begin{vmatrix} a & d & m \\ b & e & n \\ c & h & z \end{vmatrix} \\ = 3 \times -2 \times 8 \\ = -48$$



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3) Solve the right-angled triangle ABC at B,

in which $AC = 16$ cm, $m(\angle C) = 40^\circ$.

$$m(\angle A) = 180 - (90 + 40) = 50$$

$$\sin 40 = \frac{AB}{16} \Rightarrow AB \approx 10.3 \text{ cm}$$

$$\cos 40 = \frac{BC}{16} \Rightarrow BC \approx 12.3 \text{ cm}$$



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5) Find the slope of the straight line passes by the two points $(-2, 7)$, $(1, 3)$.

$$\begin{aligned}\text{slope} &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{3 - 7}{1 - (-2)} \\ &= \frac{-4}{3}\end{aligned}$$



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6) Find the parametric equations of the straight line passes by the point $(-1, 0)$, and its direction vector is $\vec{d} = (3, 3)$.

$$\vec{r} = [-1, 0] + k(3, 3)$$

$$x = -1 + 3k$$

$$y = 3k$$



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Second Group:

1) Without expanding the determinant, find the value of $\begin{vmatrix} 1 & 4 & 4 \\ 1 & 4 & 4 \\ 3 & 8 & 7 \end{vmatrix}$.

$$\therefore r_1 = r_2$$

$$\therefore \text{determinant} = \text{Zero}$$



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2) If $\begin{vmatrix} a & d & m \\ b & e & n \\ c & h & z \end{vmatrix} = 2$, find the value of $\begin{vmatrix} a & d & m \\ 4b & 4e & 4n \\ 3c & 3h & 3z \end{vmatrix}$.

$$\begin{vmatrix} a & d & m \\ 4b & 4e & 4n \\ 3c & 3h & 3z \end{vmatrix} = 4 \times 3 \begin{vmatrix} a & d & m \\ b & e & n \\ c & h & z \end{vmatrix}$$

$$= 4 \times 3 \times 2$$

$$= 24$$

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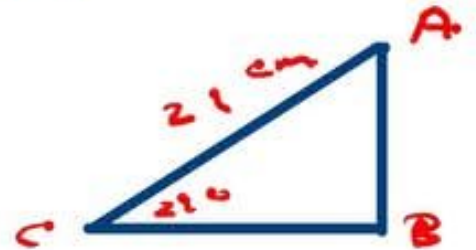


3) Solve the right angled triangle ABC at B in which $AC = 21$ cm, $m(\angle C) = 21^\circ$.

$$m(\angle A) = 180 - (90 + 21) = 69$$

$$\sin 21 = \frac{AB}{21} \Rightarrow AB = 7.5 \text{ cm}$$

$$\cos 21 = \frac{BC}{21} \Rightarrow BC = 19.6 \text{ cm}$$





4) Find the slope of the straight line passes by the two points (0, 3), (2, 1).

$$\begin{aligned}\text{slope} &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{1 - 3}{2 - 0} \\ &= -1\end{aligned}$$



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5) Find the parametric equations of the straight line passes by the point $(0, 1)$, and its direction vector is $\vec{d} = (2, 2)$.

$$r = (0, 1) + k(2, 2)$$

$$x = 2k$$

$$y = 1 + 2k$$



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Third Group:

- 1) Without expanding the determinant, find the value of $\begin{vmatrix} 3 & 3 & 4 \\ 2 & 2 & 7 \\ 1 & 1 & 11 \end{vmatrix}$.

$$C_1 = C_2$$

determinant = zero



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2) If $\begin{vmatrix} a & d & m \\ b & e & n \\ c & h & z \end{vmatrix} = 9$, find the value of $\begin{vmatrix} a & 2d & 4m \\ b & 2e & 4n \\ c & 2h & 4z \end{vmatrix}$.

$$\begin{vmatrix} a & 2d & 4m \\ b & 2e & 4n \\ c & 2h & 4z \end{vmatrix} = 2 \times 4 \begin{vmatrix} a & d & m \\ b & e & n \\ c & h & z \end{vmatrix}$$

$$= 2 \times 4 \times 9$$

$$= 72$$

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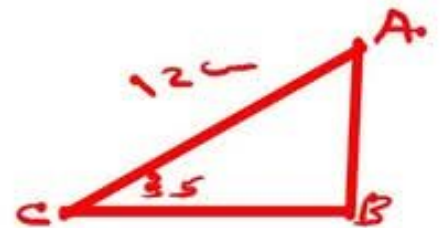


- 3) Solve the right angled triangle ABC at B
in which $AC = 12$ cm, $m(\angle C) = 35^\circ$.

$$m(\angle A) = 180 - (90 + 35) \\ = 55$$

$$\sin 35 = \frac{AB}{12} \Rightarrow AB = 9.6 \text{ cm}$$

$$\cos 35 = \frac{BC}{12} \Rightarrow BC = 9.8 \text{ cm}$$





5) Find the slope of the straight line passes by the two points $(-3, 8)$, $(7, 1)$.

$$\begin{aligned}\text{Slope} &= \frac{y_2 - y_1}{x_2 - x_1} \\ &= \frac{1 - 8}{7 - (-3)} \\ &= \frac{-7}{10}\end{aligned}$$



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- 6) Find the parametric equations of the straight line passes by the point $(0, -1)$, and its direction vector is $\vec{d} = (1, 1)$.

$$r = (0, -1) + k(1, 1)$$

$$x = k$$

$$y = -1 + k$$

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إداءات ونقييمات لمنهج الرياضيات

للفف الاول الثانوي لفات

الفصل الدراسي الثاني

للعام الدراسي 2026 / 2025

الاسبوع الثامن

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First Algebra:

1) Find the value of $\begin{vmatrix} 2 & 5 & 1 \\ 0 & 3 & 7 \\ 0 & 0 & 4 \end{vmatrix}$

$$\text{Value} = 2 \times 3 \times 4 \\ = 24$$



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3) Prove by using determinants that the following points are collinear
A(0 , -1) , B(2 , 3) and C(-1 , -3).

$$\Delta = \begin{vmatrix} 0 & -1 & 1 \\ 2 & 3 & 1 \\ -1 & -3 & 1 \end{vmatrix}$$

$$= 1(2 + 1) + 1(-6 + 3)$$

$$= 0$$



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4) Solve the following system of equations by using determinants:

$$2x + y = 4, \quad x - 3y = -5$$



$$\Delta = \begin{vmatrix} 2 & 1 \\ 1 & -3 \end{vmatrix} = -6 - 1 = -7$$

$$\Delta_x = \begin{vmatrix} 4 & 1 \\ -5 & -3 \end{vmatrix} = -12 + 5 = -7$$

$$\Delta_y = \begin{vmatrix} 2 & 4 \\ 1 & -5 \end{vmatrix} = -10 - 4 = -14$$

$$x = \frac{\Delta_x}{\Delta} = \frac{-7}{-7} = 1$$

$$y = \frac{\Delta_y}{\Delta} = \frac{-14}{-7} = 2$$

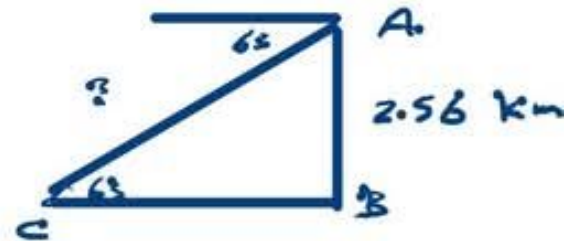
$$S.S = \{(1, 2)\}$$



Second Trigonometry:

5) A person observed a point on the Earth's surface from the top of a mountain 2.56 km high. He found that its angle of depression was 63° . Find the distance to the nearest meter between the point and the observer.

$$\sin 63 = \frac{2.56}{AC}$$
$$AC = 2.873 \text{ km}$$
$$= 2873 \text{ m}$$



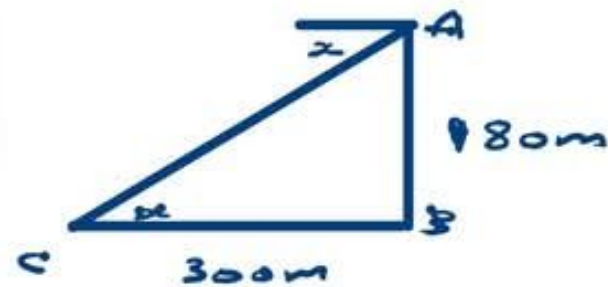
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6) From the top of a rock 180 meters above sea level, the angle of depression of a boat 300 meters from the base of the rock was measured. What is the measure of the angle of depression?

$$\tan x = \frac{180}{300}$$

$$m(\angle x) = 30^\circ 58'$$



Third Geometry:

7) Find the general equation of the straight line passes by the point $(2, -3)$ and perpendicular to the vector $\vec{c} = (-1, 2)$.

$$r = (2, -3) + k (2, 1)$$

Vector equ

$$x = 2 + 2k$$

$$y = -3 + k$$

Parametric equ



$$\frac{x-2}{2} = \frac{y+3}{1}$$

$$2y + 6 = x - 2$$

$\Rightarrow$

$$2y - x + 8 = 0$$

General
equation



8) Find the general equation of the straight line which cuts from the positive parts of the two axes x, y two parts of length 2, 3 respectively.

$$\frac{x}{2} + \frac{y}{3} = 1$$

$$\times 6$$



$$3x + 2y = 6$$

General equation

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9) Find the two intercepted parts from the two axes by the straight line of equation $5x - 3y = 15$.



cut x -axis

$$y = 0 \Rightarrow x = 3$$

intercepted x -axis 3

cut y -axis

$$x = 0 \Rightarrow y = -5$$

intercepted y -axis 5



10) Find the vector equation of the straight line passes by the point (3 , 5) and parallel to the x axis.

$$r = (3, 5) + k(1, 0)$$



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First Algebra:

1) Find the value of $\begin{vmatrix} 4 & 0 & 0 \\ 7 & 2 & 0 \\ 5 & 2 & 1 \end{vmatrix}$

$$\text{value} = 4 \times 2 \times 1 \\ = 8$$



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2) Find the area of the triangle ABC where A(1, 2), B(4, 6) and C(7, 2)

$$\Delta = \begin{vmatrix} 1 & 2 & 1 \\ 4 & 6 & 1 \\ 7 & 2 & 1 \end{vmatrix}$$

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$$= 1(6-2) - 2(4-7) + 1(8-42) \\ = -24$$

$$\text{area} = \frac{1}{2} \times 24 \\ = 12 \\ \text{square unit}$$



3) Prove by using determinants that the following points are collinear
A(0, -3), B(1, -1) and C(-1, -5).

$$\begin{vmatrix} 0 & -3 & 1 \\ 1 & -1 & 1 \\ -1 & -5 & 1 \end{vmatrix} = 3(1+1) + 1(-5-1) \\ = 2 \neq 0$$

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4) Solve the following system of equations by using determinants:

$$x - y = 2, \quad 2x - 3y = 5$$

$$\Delta = \begin{vmatrix} 1 & -1 \\ 2 & -3 \end{vmatrix} = -3 + 2 = -1$$

$$\Delta_x = \begin{vmatrix} 2 & -1 \\ 5 & -3 \end{vmatrix} = -6 + 5 = -1$$

$$\Delta_y = \begin{vmatrix} 1 & 2 \\ 2 & 5 \end{vmatrix} = 5 - 4 = 1$$

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$$x = \frac{\Delta_x}{\Delta} = \frac{-1}{-1} = 1$$
$$y = \frac{\Delta_y}{\Delta} = \frac{1}{-1} = -1$$
$$S.S = \{ (1, -1) \}$$

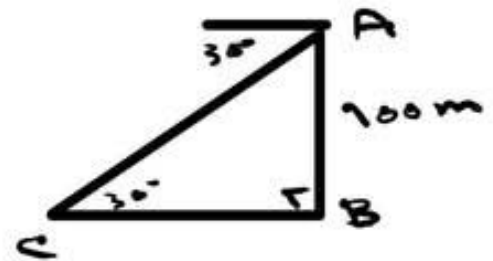


Second Trigonometry:

5) A person observed a boat on the sea from the top of a tower 100m high. He found that its angle of depression was 30° . Find the distance to the nearest meter between the boat and the observer.

$$\sin 30 = \frac{100}{AC}$$

$$AC = 200m$$

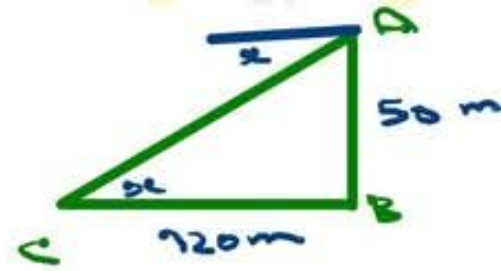




6) From the top of a building 50 meters high, the angle of depression of a car 120 meters from the base of the building was measured. What is the measure of the angle of depression?

$$\tan x = \frac{50}{120}$$

$$m(\angle x) = 22^{\circ} 37'$$



Third Geometry:

7) Find the general equation of the straight line passes by the point (3, 4) and perpendicular to the vector $\vec{c} = (5, 2)$.

$$r = (3, 4) + t(2, -5) \quad \text{vector}$$

$$\begin{cases} x = 3 + 2t \\ y = 4 - 5t \end{cases} \quad \text{parametric}$$



$$\frac{x-3}{2} = \frac{y-4}{-5}$$

$$2y - 8 = -5x + 15 \Rightarrow 2y + 5x - 23 = 0 \quad \text{general equation}$$

8) Find the general equation of the straight line which cuts from the positive parts of the two axes x, y two parts 4, 5 Respectively.

$$\frac{x}{4} + \frac{y}{5} = 1$$

$$\times 20$$

$$5x + 4y = 20$$

general equation





9) Find the two intercepted parts from the two axes by the straight line of equation $2x + 7y = 14$.

$$x=0 \rightarrow y=2$$

intercepted part from y-axis 2

$$y=0 \rightarrow x=7$$

intercepted part from x-axis 7

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إدعاءات ونقييمات لمنهج الرياضيات

للفصل الأول الثانوي **لفات**

الفصل الدراسي الثاني

للعام الدراسي 2026 / 2025

الاسبوع التاسع

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First: Algebra:

1) By using determinants find the solution set of the following equations:

$$2x + y - 2z = 10, \quad 3x + 2y + 2z = 1, \quad 5x + 4y + 3z = 4.$$

$$\Delta_x = \begin{vmatrix} 2 & 1 & -2 \\ 3 & 2 & 2 \\ 5 & 4 & 3 \end{vmatrix} = -7, \quad \Delta_y = \begin{vmatrix} 10 & 1 & -2 \\ 1 & 2 & 2 \\ 4 & 4 & 3 \end{vmatrix} = -7, \quad \Delta_z = \begin{vmatrix} 2 & 10 & -2 \\ 3 & 1 & 2 \\ 5 & 4 & 3 \end{vmatrix} = -14$$

$$\Delta_z = \begin{vmatrix} 2 & 1 & 10 \\ 3 & 2 & 1 \\ 5 & 4 & 4 \end{vmatrix} = 21$$

$$x = \frac{\Delta_x}{\Delta} = \frac{-7}{-7} = 1$$

$$y = \frac{\Delta_y}{\Delta} = \frac{-7}{-7} = 2$$

$$z = \frac{\Delta_z}{\Delta} = \frac{-14}{-7} = 2$$

So
S = {1, 2, 2}



- 2) Find the values of x which makes the matrix $\begin{pmatrix} x & 9 \\ 4 & x \end{pmatrix}$ has no multiplicative inverse.

$$x^2 - 36 = 0$$

$$x = 6 \quad | \quad x = -6$$



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3) Find the multiplicative inverse of the matrix $\begin{pmatrix} 4 & 6 \\ 2 & 2 \end{pmatrix}$.

$$\Delta = 4 \times 2 - 2 \times 6 = -4$$

$$A^{-1} = \frac{1}{-4} \begin{pmatrix} 2 & -6 \\ -2 & 4 \end{pmatrix}$$



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9) Find the measure of the acute angle between the two lines:

$$\vec{r} = (0, 1) + k(1, 1), \quad 2x - y - 3 = 0.$$

$$m_1 = \frac{1}{1} = 1$$

$$m_2 = \frac{-2}{-1} = 2$$

$$\tan \theta = \left| \frac{m_1 - m_2}{1 + m_1 m_2} \right|$$

$$= \left| \frac{1 - 2}{1 + 1 \times 2} \right| = \frac{1}{3}$$

$$\theta = 18^\circ 26'$$



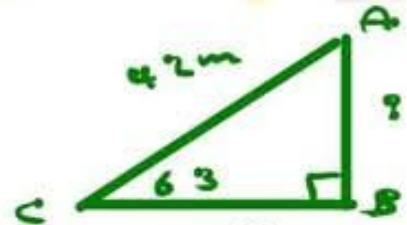


Second: Trigonometry:

- 5) A kite has a string of length 42 meters. If the angle made by the string with the horizontal ground is equal to 63° , find, to the nearest meter, the height of the kite above the ground.

$$\sin 63 = \frac{AB}{42}$$

$$AB = 37.4 \text{ m}$$
$$\approx 37 \text{ m}$$



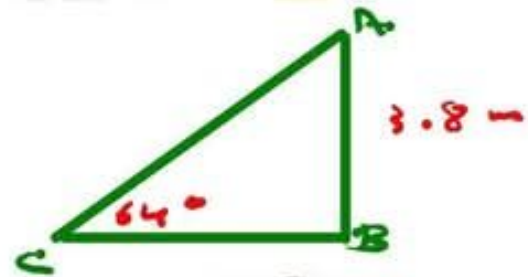
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- 6) A ladder rests by one end on a vertical wall and is 3.8 meters above the ground. The lower end of the ladder is on the ground, the measure the angle of inclination of the ladder to the ground is 64° find to the nearest two decimal places, the length of the ladder.

$$\sin 64 = \frac{3.8}{AC}$$

$$AC = \frac{3.8}{\sin 64} \\ \approx 4.23 \text{ m}$$



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4) Using matrices, find the solution set of the following systems of equations

$$2x + y = 7, \quad x - y = -1.$$

$$\begin{pmatrix} 2 & 1 \\ 1 & -1 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 7 \\ -1 \end{pmatrix}$$

$$\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 2 & 1 \\ 1 & -1 \end{pmatrix}^{-1} \begin{pmatrix} 7 \\ -1 \end{pmatrix}$$

$$= \frac{1}{-3} \begin{pmatrix} -1 & -2 \\ -1 & 2 \end{pmatrix} \begin{pmatrix} 7 \\ -1 \end{pmatrix} = \begin{pmatrix} 2 \\ 3 \end{pmatrix}$$

$$\text{S.S} = \{ (2, 3) \}$$



10) Find the measure of the acute angle between the two lines.

$$x - \sqrt{3}y = 4, \quad y = 1.$$

$$m_1 = \frac{-1}{-\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$m_2 = 0$$

$$\tan \theta = \left| \frac{\frac{\sqrt{3}}{3} - 0}{1 - \frac{\sqrt{3}}{3} \times 0} \right| = \frac{\sqrt{3}}{3}$$

$$\theta = 30^\circ$$



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- 10) Find the measure of the acute angle between the two lines.
 $\sqrt{3}x - y = 4$, $y = 3$.

$$m_1 = \frac{-\sqrt{3}}{-1} = \sqrt{3} \quad , \quad m_2 = \frac{0}{1} = 0$$

$$\tan \theta = \left| \frac{\sqrt{3} - 0}{1 + \sqrt{3} \times 0} \right| = \sqrt{3}$$

$$\theta = 60^\circ$$



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2) Find the values of x which makes the matrix $\begin{pmatrix} x & 9 \\ 25 & x \end{pmatrix}$ has no multiplicative inverse.

$$x^2 - 9 \times 25 = 0$$

$$x^2 - 144 = 0$$

$$x = 12 \quad | \quad x = -12$$



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9) Find the measure of the acute angle between the two lines:

$$\vec{r} = (1, 2) + k(3, -1), \quad 2x - y + 1 = 0.$$

$$m_1 = -\frac{1}{3}$$

$$m_2 = \frac{-2}{-1} = 2$$

$$\tan \theta = \left| \frac{m_1 - m_2}{1 + m_1 m_2} \right|$$

$$= \left| \frac{-\frac{1}{3} - 2}{1 + (-\frac{1}{3}) \times 2} \right| = 7$$

$$\theta = 81^\circ 52'$$



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First: Algebra:

1) By using determinants find the solution set of the following equations:

$$x + y + z = 2, \quad 2x - y + 3z = -3, \quad 3x + 2y - z = 7.$$

$$\Delta = \begin{vmatrix} 1 & 1 & 1 \\ 2 & -1 & 3 \\ 3 & 2 & -1 \end{vmatrix} = 13$$

$$\Delta_x = \begin{vmatrix} 2 & 1 & 1 \\ -3 & -1 & 3 \\ 7 & 2 & -1 \end{vmatrix} = 9$$

$$x = \frac{\Delta_x}{\Delta} = \frac{9}{13}$$

$$y = \frac{\Delta_y}{\Delta} = \frac{27}{13}$$

$$z = \frac{\Delta_z}{\Delta} = \frac{-10}{13}$$

$$\Delta_y = \begin{vmatrix} 1 & 2 & 1 \\ 2 & 3 & 3 \\ 3 & 7 & -1 \end{vmatrix} = 27$$

$$\Delta_z = \begin{vmatrix} 1 & 1 & 2 \\ 2 & -1 & 3 \\ 3 & 2 & 7 \end{vmatrix} = -10$$

$$S.S = \left\{ \left(\frac{9}{13}, \frac{27}{13}, \frac{-10}{13} \right) \right\}$$



3) Find the multiplicative inverse of the matrix $\begin{pmatrix} 3 & 5 \\ 1 & 2 \end{pmatrix}$.

$$\Delta = 3 \times 2 - 1 \times 5$$
$$= 1$$

$$A^{-1} = \frac{1}{1} \begin{pmatrix} 2 & -5 \\ -1 & 3 \end{pmatrix}$$



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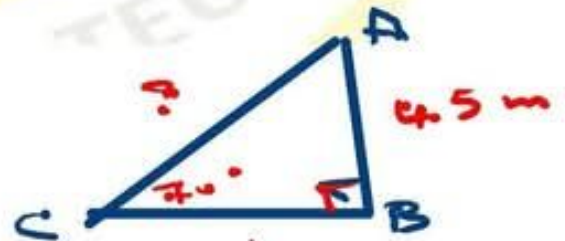
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- 6) A ladder rests by one end on a vertical wall and is 4.5 meters above the ground. The lower end of the ladder is on the ground, the measure the angle of inclination of the ladder to the ground is 70° find to the nearest two decimal places, the length of the ladder.

$$\sin 70^\circ = \frac{4.5}{AC}$$

$$AC = 4.788 \text{ m}$$
$$\approx 4.79 \text{ m}$$





Second: Trigonometry:

- 5) A kite has a string of length 50 meters. If the angle made by the string with the horizontal ground is equal to 55° , find, to the nearest meter, the height of the kite above the ground.

$$\sin 55^\circ = \frac{AB}{50}$$

$$AB = 40.9 \text{ m} \\ \approx 41 \text{ m.}$$



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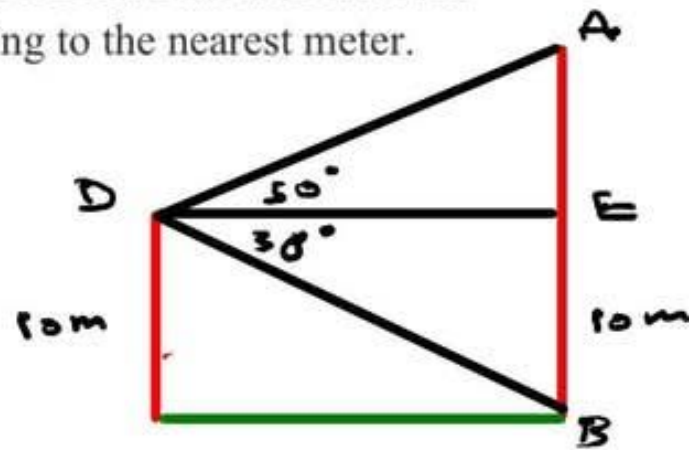
- 7) From the roof of a 10-meter-high house, a person measured the angle of elevation of the top of a building in front of him and found its measure is 50° . He also measured the angle of depression of its base and found its measure is 30° . Find the height of the building to the nearest meter.

$$\tan 30 = \frac{10}{DE}$$
$$DE = 10\sqrt{3}$$

$$\tan 50 = \frac{AE}{10\sqrt{3}}$$

$$AE = 20.6 \text{ m}$$

$$\text{height} = 10 + 20.6 = 30.6 \text{ m}$$
$$\approx 31 \text{ m.}$$





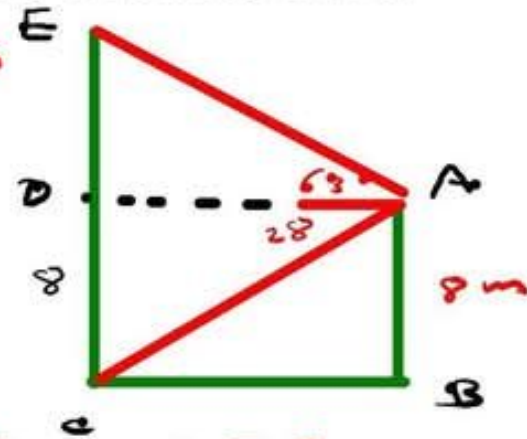
- 7) From the roof of an 8-meter-high house, a person measured the angle of elevation of the top of a building in front of him and found its measure is 63° . He also measured the angle of depression of its base and found its measure is 28° . Find the height of the building to the nearest meter.

$$\tan 28 = \frac{8}{AD} \Rightarrow AD = 15.05 \text{ m}$$

$$\tan 63 = \frac{ED}{15.04}$$

$$ED = 29.5 \text{ m}$$

$$\text{height of building} = 29.5 + 8 = 37.5 \text{ m} \approx 38 \text{ m}$$





Third: Geometry:

- 8) Find the measure of the angle between the two lines whose slopes are $2, \frac{-1}{2}$.

$$m_1 \times m_2 = 2 \times \frac{-1}{2} \\ = -1$$



measure of angle between
them is 90°

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Third: Geometry:



- 8) Find the measure of the angle between the two lines whose slopes are $3, \frac{-1}{3}$.

$$m_1 \times m_2 = 3 \times \frac{-1}{3} \\ = -1$$

$$\text{measure of angle} = 90^\circ$$



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أداءات ونقييمات لمنهج الرياضيات

للفصف الأول الثانوي لفات

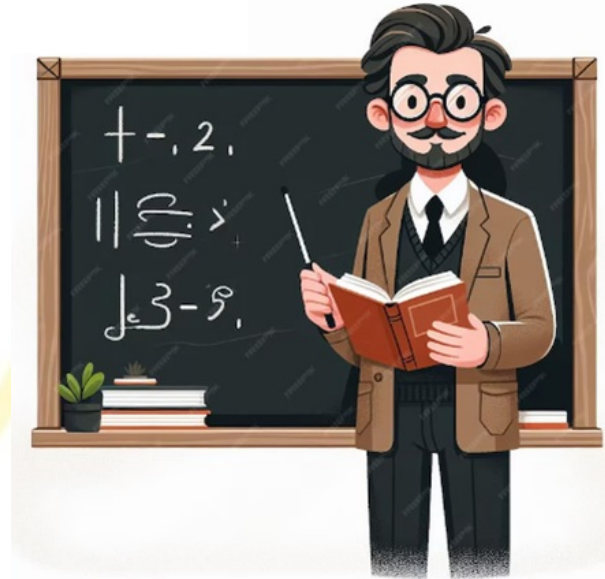
الفصل الدراسي الثاني

للعام الدراسي 2026 / 2025

الأسبوع العاشر

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(10) الرياضيات لغات الصف الأول الثانوي الأداء الصفی الأسبوع العاشر (10)

First: Algebra:

1) If $A = \begin{pmatrix} 3 & 1 \\ 5 & -2 \end{pmatrix}$, $B = \begin{pmatrix} 4 & 7 \\ 8 & 9 \end{pmatrix}$ then find the value of $A_{21} + B_{12}$.

$$A_{21} + B_{12} = 5 + 7 = 12$$

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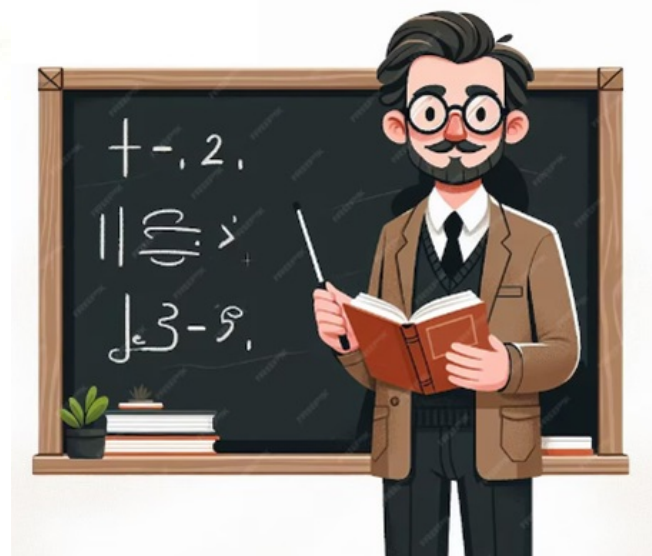


2) If the matrix $\begin{pmatrix} 3 & -1 \\ x-4 & 5 \end{pmatrix}$ is a symmetric matrix, then find the value of x .

$$x-4 = -1$$

$$x = -1 + 4$$

$$x = 3$$



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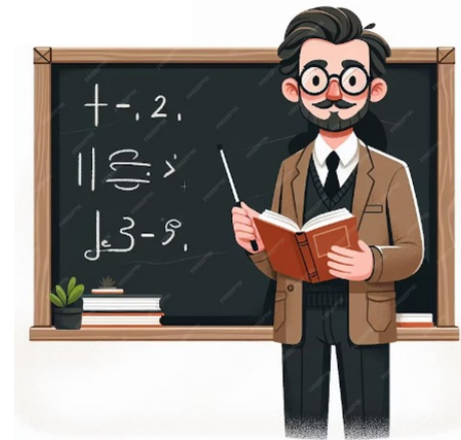
3) Find the multiplicative inverse for the matrix $\begin{pmatrix} 4 & 6 \\ 2 & 2 \end{pmatrix}$.

$$\Delta = 4 \times 2 - 2 \times 6$$

$$= -4$$

$$\text{multiplicative inverse} = \frac{1}{-4} \begin{pmatrix} 2 & -6 \\ -2 & 4 \end{pmatrix}$$

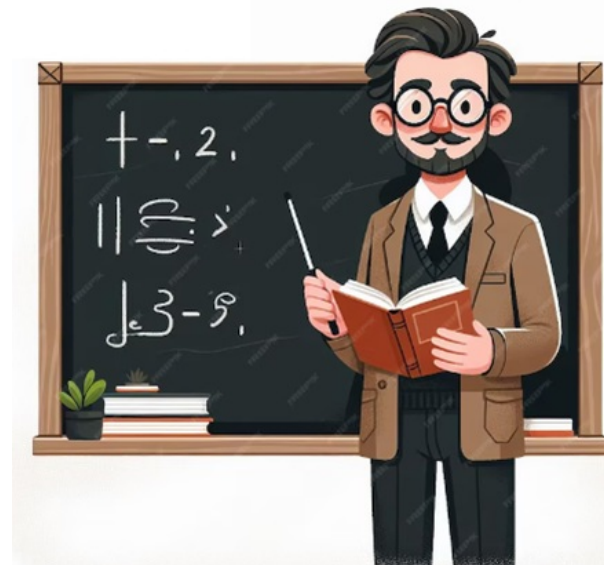
$$= \begin{pmatrix} -\frac{1}{2} & \frac{3}{2} \\ \frac{1}{2} & -1 \end{pmatrix}$$



Second: Trigonometry:

4) Find the surface area of the circular sector whose diameter is 20 cm and its angle of measure is 120° .

$$\begin{aligned}
 A &= \pi r^2 \frac{\theta}{360} \\
 &= \pi (10)^2 \times \frac{120}{360} \\
 &= \frac{100}{3} \pi \text{ cm}^2
 \end{aligned}$$

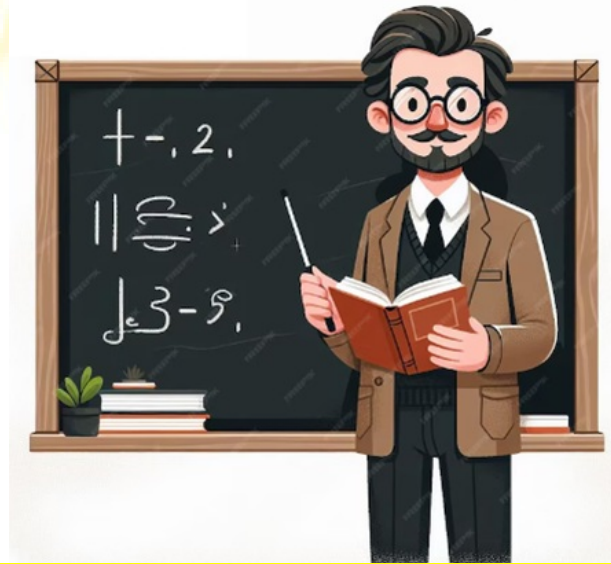


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5) Find the surface area of a circular sector with an arc length of 16 cm and a radius of 9 cm.

$$\begin{aligned} \text{Area} &= \frac{1}{2} L r \\ &= \frac{1}{2} \times 16 \times 9 \\ &= 72 \text{ cm}^2 \end{aligned}$$



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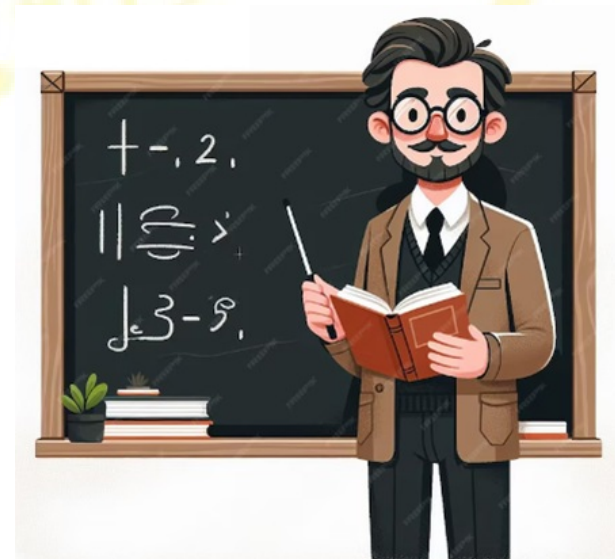
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6) If the surface area of a circular sector is 110 cm^2 and the measure of its angle is 2.2^{rad} , find the length of its radius.

$$\text{Area} = \frac{1}{2} r^2 \theta^{\text{rad}}$$

$$110 = \frac{1}{2} \times r^2 \times 2.2$$

$$r = 10 \text{ cm}$$



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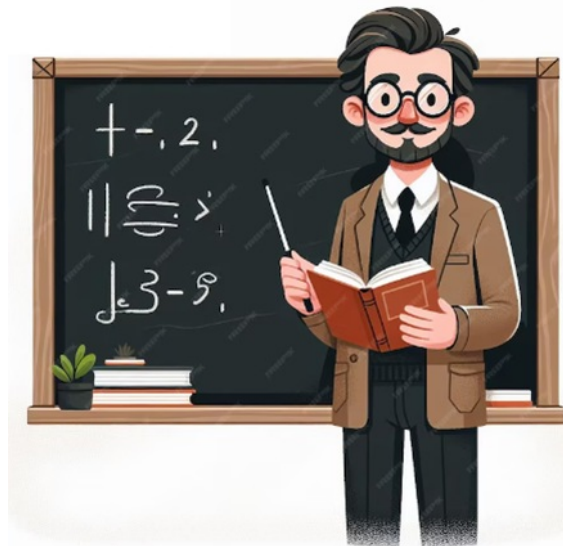
7) A circular sector has an arc length of 7 cm and a perimeter of 25 cm. Find its surface area.

$$\text{Per} = 2r + L$$

$$25 = 2r + 7$$

$$r = 9 \text{ cm}$$

$$\begin{aligned} \text{Area} &= \frac{1}{2} Lr \\ &= \frac{1}{2} \times 7 \times 9 \\ &= 31.5 \text{ cm}^2 \end{aligned}$$



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Third: Geometry:

8) Find the measure of the angle between the two lines whose slopes are $2, -\frac{1}{2}$.

$$m_1 \text{ \& } m_2 = 2 \text{ \& } -\frac{1}{2}$$

$$= -1$$

$$\text{measure} = 90^\circ$$



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9) Find the measure of the acute angle between the two lines:

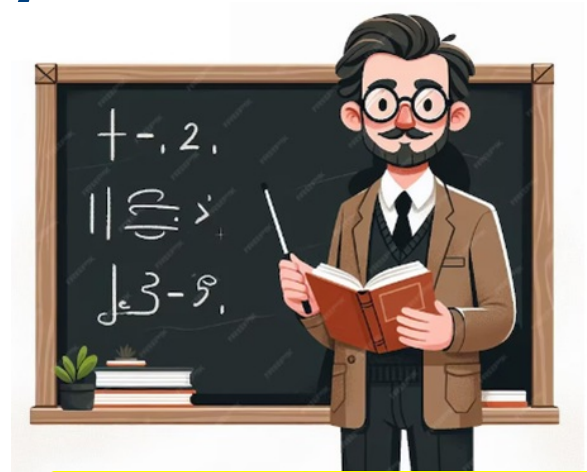
$$\vec{r} = (0, 1) + k(1, 1) \quad , \quad 2x - y - 3 = 0.$$

$$m_1 = \frac{1}{1} = 1 \quad , \quad m_2 = \frac{-2}{-1} = 2$$

$$\tan \theta = \left| \frac{m_1 - m_2}{1 + m_1 m_2} \right|$$

$$= \left| \frac{1 - 2}{1 + 1 \times 2} \right| = \frac{1}{3}$$

$$\theta = 18^\circ 26'$$



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10) Find the measure of the acute angle between the two lines.

$$\sqrt{3}x - y = 4, \quad y = 3.$$

$$m_1 = \frac{-\sqrt{3}}{-1} = \sqrt{3}$$

$$, m_2 = 0$$

$$\tan \theta = \sqrt{3}$$

$$\theta = 60^\circ$$

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First: Algebra:

1) If $\begin{pmatrix} 3 & 5 \\ x & 3 \end{pmatrix} = \begin{pmatrix} 3 & 5 \\ 7 & y + 1 \end{pmatrix}$ then find the value of x, y .

$$x = 7$$

$$y + 1 = 3$$

$$y = 2$$

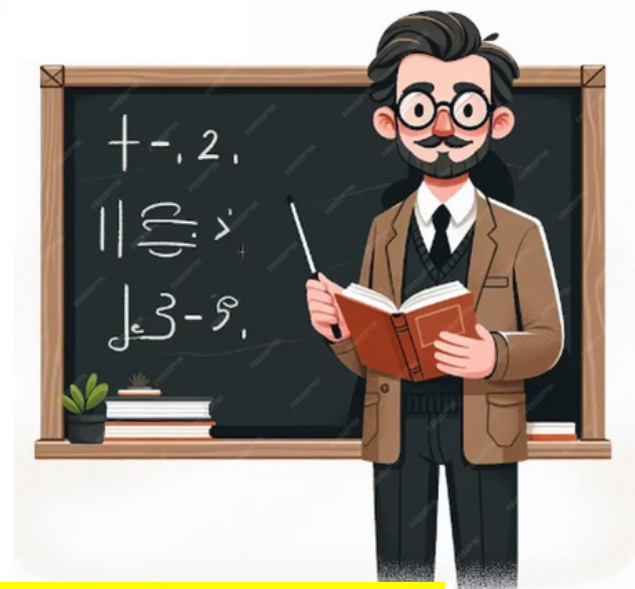
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2) If $\begin{pmatrix} 6 & 2 \\ 5 & -2 \end{pmatrix} + B = O$, then find the matrix B.

$$B = \begin{pmatrix} -6 & -2 \\ -5 & 2 \end{pmatrix}$$



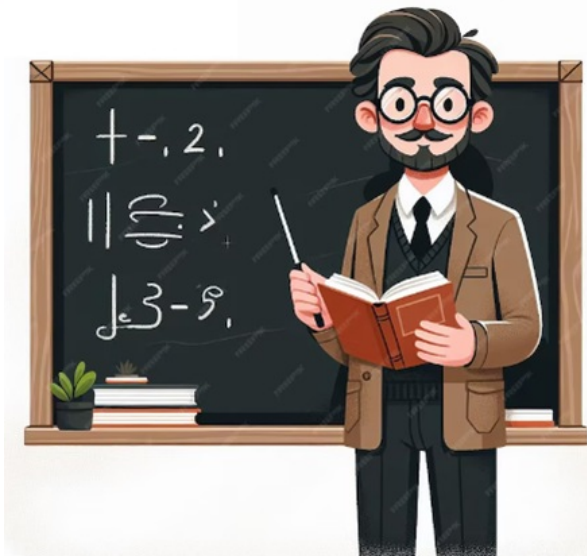
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3) Find the multiplicative inverse for the matrix $\begin{pmatrix} 3 & 5 \\ 1 & 2 \end{pmatrix}$.

$$\Delta = 6 - 5 = 1$$

$$A^{-1} = \frac{1}{1} \begin{pmatrix} 2 & -5 \\ -1 & 3 \end{pmatrix}$$



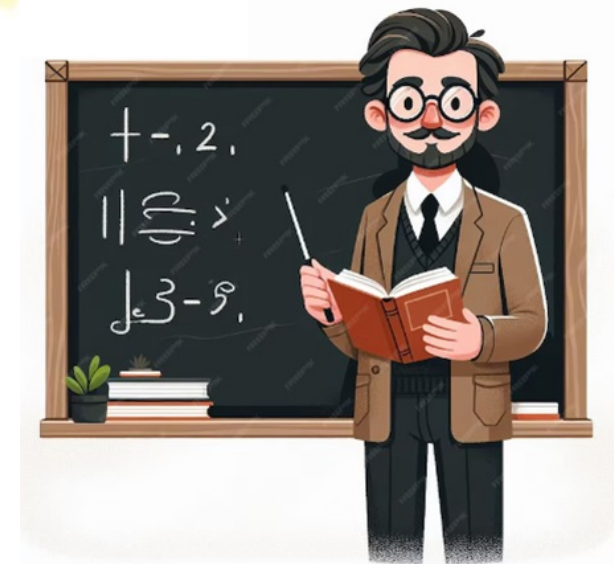
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Second: Trigonometry:

4) Find the surface area of the circular sector whose diameter is 30 cm and its angle of measure is 150° .

$$\begin{aligned} \text{Area} &= \pi r^2 \frac{\theta^\circ}{360} \\ &= \pi \times 15^2 \times \frac{150}{360} \\ &= 93.75 \pi \text{ cm}^2 \end{aligned}$$



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5) Find the surface area of a circular sector with an arc length of 8 cm and a radius of 10 cm.

$$\begin{aligned} \text{Area} &= \frac{1}{2} L r \\ &= \frac{1}{2} \times 8 \times 10 \\ &= 40 \text{ cm}^2 \end{aligned}$$



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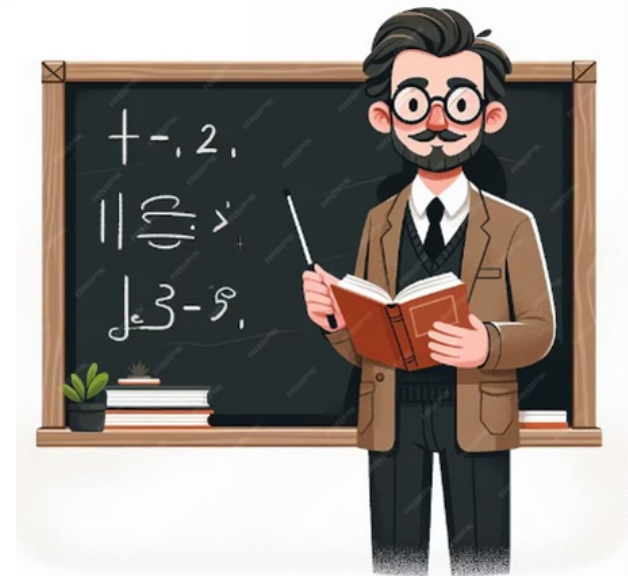
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6) If the surface area of a circular sector is 90 cm^2 and the measure of its angle is 1.3^{rad} , find the length of its radius.

$$\text{Area} = \frac{1}{2} r^2 \theta^{\text{rad}}$$

$$90 = \frac{1}{2} \times r^2 \times 1.3$$

$$r = 11.77 \text{ cm}$$



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$$Y = 11 \text{ cm}$$

$$\begin{aligned}\text{Area} &= \frac{1}{2} \times r \\ &= \frac{1}{2} \times 9 \times 11 \\ &= 49.5 \text{ cm}^2\end{aligned}$$



Third: Geometry:

8) Find the measure of the angle between the two lines whose slopes are 3 , $-\frac{1}{3}$.

$$m_1 m_2 = 3 \times -\frac{1}{3}$$

$$= -1$$

$$\text{measure} = 90^\circ$$



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9) Find the measure of the acute angle between the two lines:

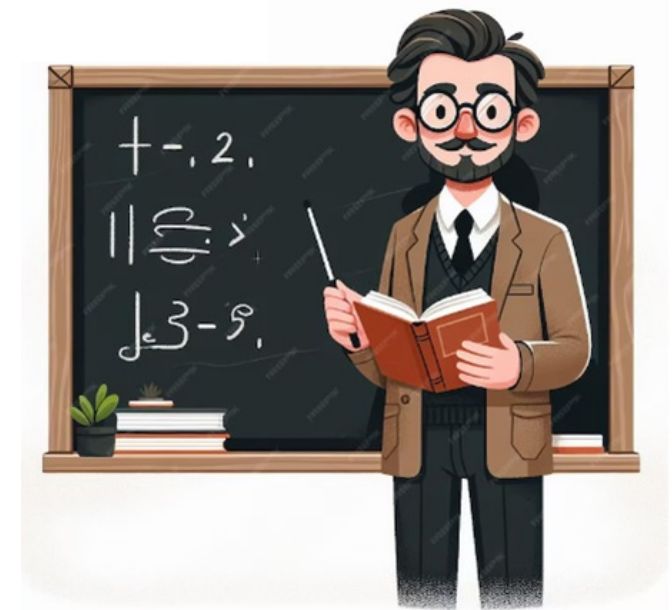
$$\vec{r} = (1, 2) + k(3, -1), \quad 2x - y + 1 = 0.$$

$$m_1 = -\frac{1}{3}$$

$$m_2 = \frac{-2}{-1} = 2$$

$$\tan \theta = \left| \frac{-\frac{1}{3} - 2}{1 + (-\frac{1}{3}) \times 2} \right| = 7$$

$$\theta = 81^\circ 52'$$



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10) Find the measure of the acute angle between the two lines:

$$x - \sqrt{3}y = 4, y = 1.$$

$$m_1 = \frac{-1}{-\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$m_2 = 0$$

$$\tan \theta = \frac{\sqrt{3}}{3}$$

$$\theta = 30^\circ$$



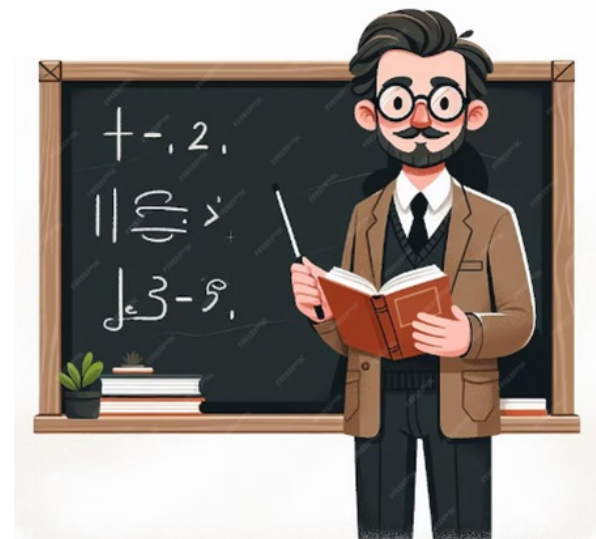
Mr. Malak Youssef

First Group:

1) Form the determinant of the coefficients of the equations:

$$x + 2y = 1, \quad 3y - z = 1, \quad 2x + z = 1.$$

$$\Delta = \begin{vmatrix} 1 & 2 & 0 \\ 0 & 3 & -1 \\ 2 & 0 & 1 \end{vmatrix}$$



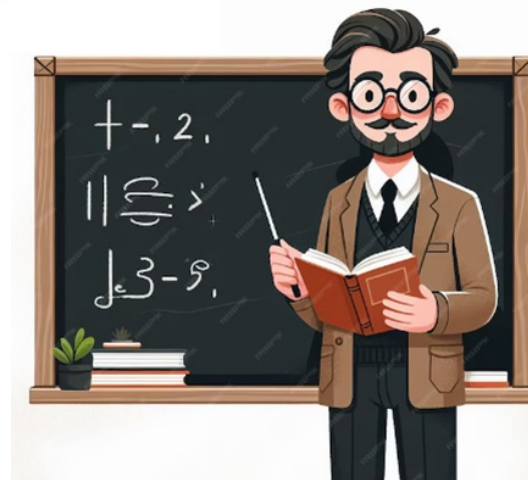
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2) Find the values of x which makes the matrix $\begin{pmatrix} x & 8 \\ 4 & 2 \end{pmatrix}$ has no multiplicative inverse.

$$2x - 32 = 0$$

$$x = 16$$



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3) Find the surface area of the circular sector whose diameter is 45 cm and its angle of measure is 90° .

$$\begin{aligned}
 \text{Area} &= \pi r^2 \frac{\theta^\circ}{360} \\
 &= \pi \times \left(\frac{45}{2}\right)^2 \times \frac{90}{360} \\
 &= 126.56 \pi \text{ cm}^2
 \end{aligned}$$

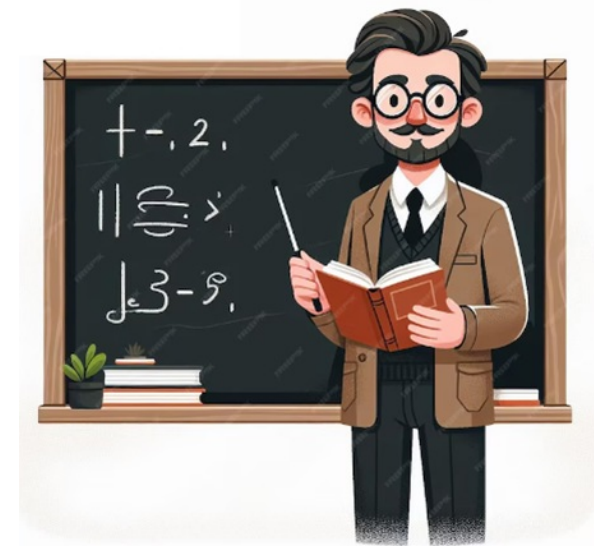


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4) Find the surface area of a circular sector with an arc length of 4 cm and a radius of 6 cm.

$$\begin{aligned} \text{Area} &= \frac{1}{2} L r \\ &= \frac{1}{2} \times 4 \times 6 \\ &= 12 \text{ cm}^2 \end{aligned}$$



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5) Find the measure of the acute angle between the two lines:

$$x - y = 5, y = 2.$$

$$m_1 = \frac{-1}{-1} = 1$$

$$m_2 = 0$$

$$\tan \theta = 1$$

$$\theta = 45^\circ$$

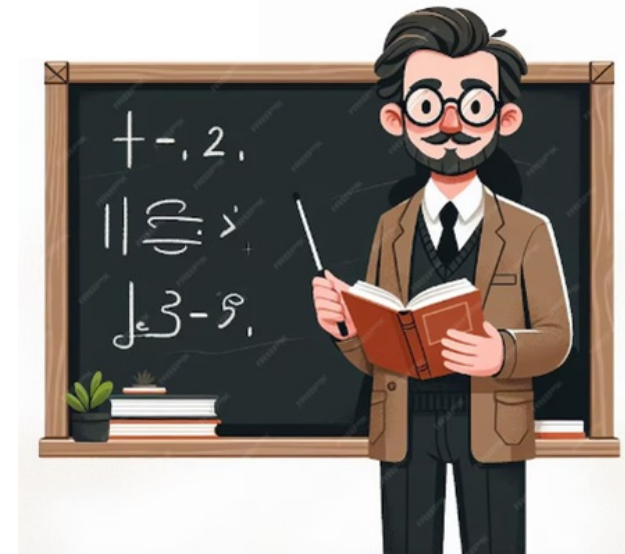


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Second: Group:

1) Form the determinant of the coefficients of the equations:
 $4x - y = 4$, $y + 5z = -5$, $3x + z = 2$.

$$\Delta = \begin{vmatrix} 4 & -1 & 0 \\ 0 & 1 & 5 \\ 3 & 0 & 1 \end{vmatrix}$$



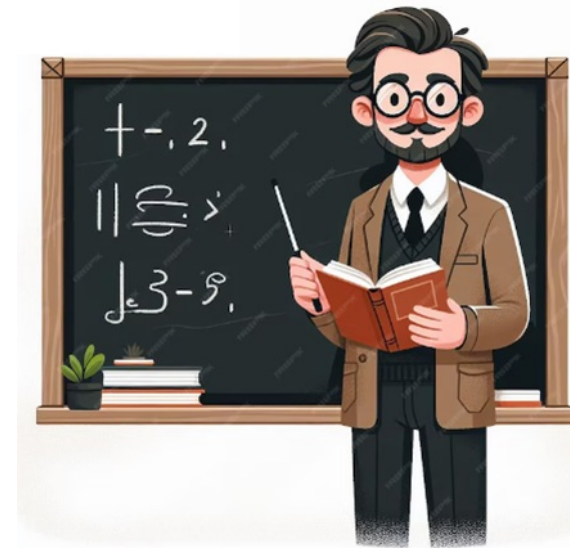
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2) Find the values of x which makes the matrix $\begin{pmatrix} x & 2 \\ 6 & 3 \end{pmatrix}$ has no multiplicative inverse.

$$3x - 12 = 0$$

$$x = 4$$

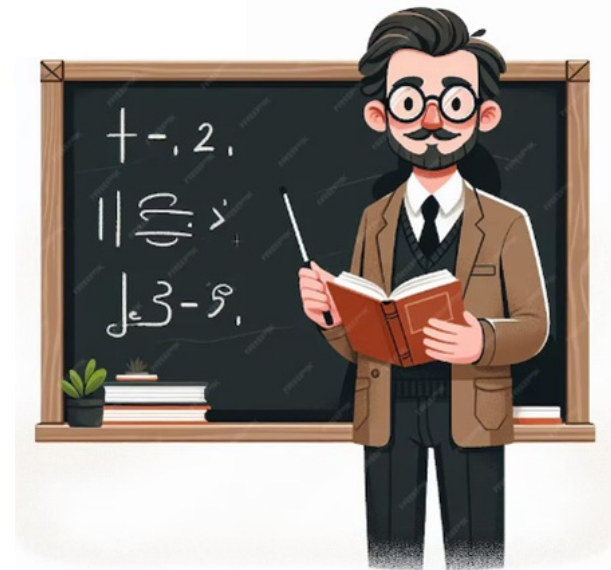


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3) Find the surface area of the circular sector whose diameter is 15 cm and its angle of measure is 60° .

$$\begin{aligned} \text{area} &= \pi r^2 \frac{\theta^\circ}{360} \\ &= \pi \times 7.5^2 \times \frac{60}{360} \\ &= 9.375 \pi \text{ cm}^2 \end{aligned}$$

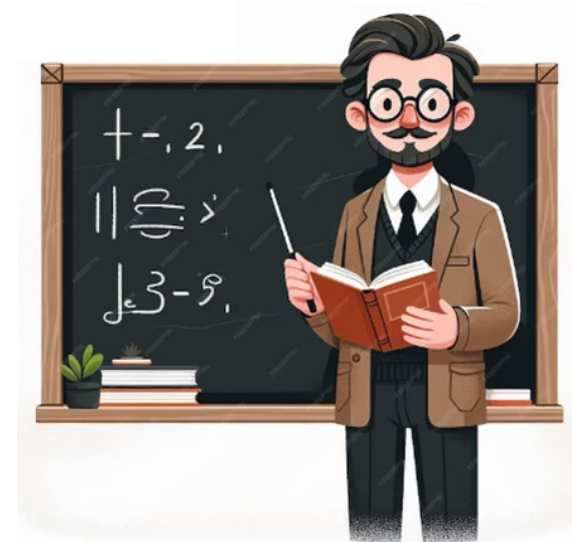


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4) Find the surface area of a circular sector with an arc length of 2 cm and a radius of 4 cm.

$$\begin{aligned} \text{area} &= \frac{1}{2} l r \\ &= \frac{1}{2} \times 2 \times 4 \\ &= 4 \text{ cm}^2 \end{aligned}$$



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5) Find the measure of the acute angle between the two lines:

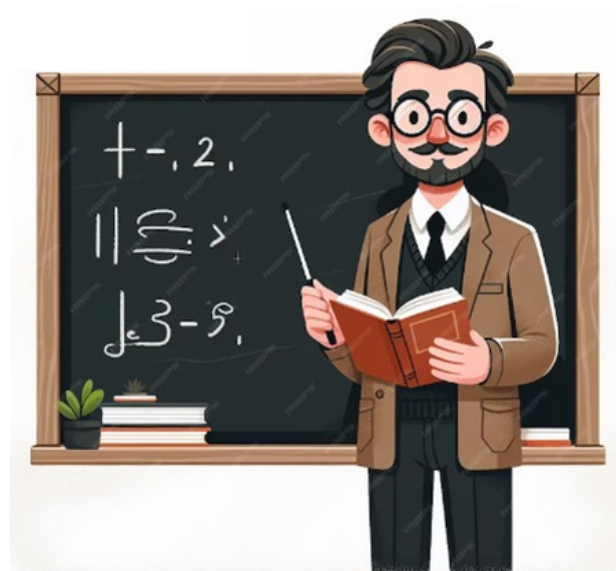
$$x + y = 6, y = 4.$$

$$m_1 = \frac{-1}{1} = -1$$

$$\tan \theta = 1$$

$$\theta = 45^\circ$$

$$m_2 = 0$$



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Third: Group:

1) Form the determinant of the coefficients of the equations:

$$2x + 3y = 2, \quad y - 4z = 4, \quad x + z = 0.$$

$$\Delta = \begin{vmatrix} 2 & 3 & 0 \\ 0 & 1 & -4 \\ 1 & 0 & 1 \end{vmatrix}$$



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2) Find the values of x which makes the matrix $\begin{pmatrix} 4 & 8 \\ 2 & x \end{pmatrix}$ has no multiplicative inverse.

$$4x - 16 = 0$$

$$x = 4$$

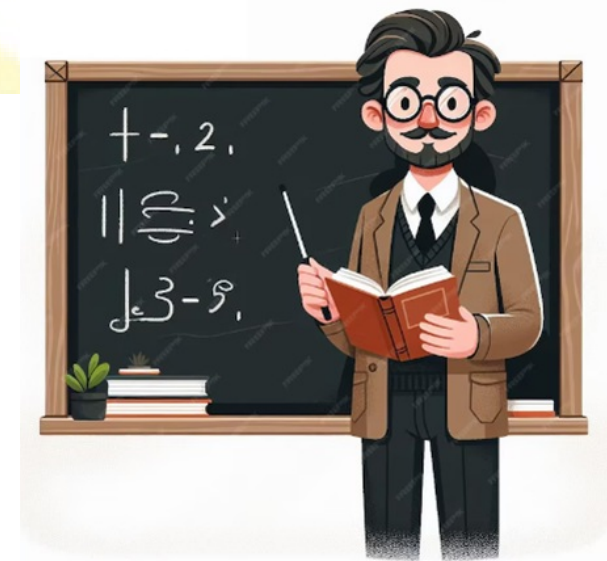


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3) Find the surface area of the circular sector whose diameter is 20 cm and its angle of measure is 45° .

$$\begin{aligned}
 \text{area} &= \pi r^2 \frac{\theta}{360} \\
 &= \pi (10)^2 \times \frac{45}{360} \\
 &= 12.5 \pi \text{ cm}^2
 \end{aligned}$$

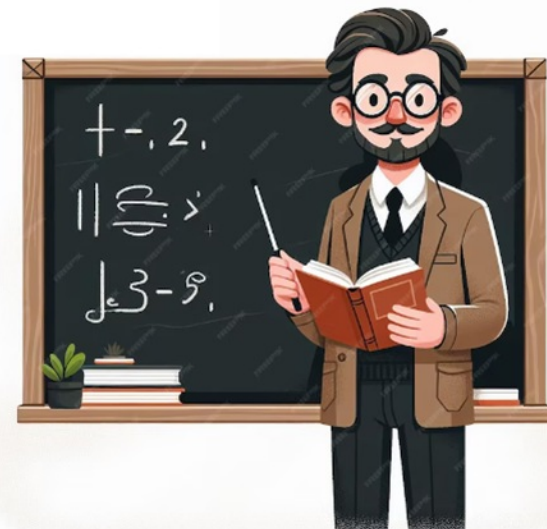


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4) Find the surface area of a circular sector with an arc length of 3 cm and a radius of 12 cm.

$$\begin{aligned}\text{Area} &= \frac{1}{2} l r \\ &= \frac{1}{2} \times 3 \times 12 \\ &= 18 \text{ cm}^2\end{aligned}$$



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5) Find the measure of the acute angle between the two lines:

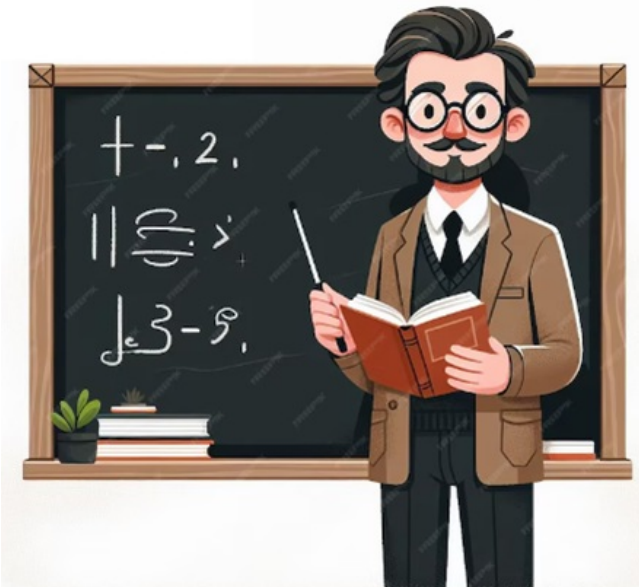
$$x - y = 12, \quad y = 1.$$

$$m_1 = \frac{-1}{-1} = 1$$

$$\tan \theta = 1$$

$$\theta = 45^\circ$$

$$m_2 = 0$$



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إشراف علمي
مسنشار الرياضيات

أ / منال عزقول

أداءات ونقييمات لمنهج الرياضيات

للفصف الأول الثانوي لفات

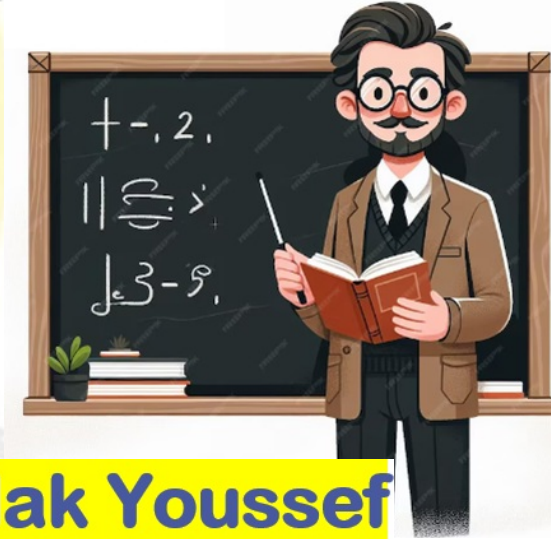
الفصل الدراسي الثاني

للعام الدراسي 2026 / 2025

الأسبوع الحادي عشر

Mr. Malak Youssef

01092727915



(11) الرياضيات لغات للصف الأول الثانوي الأداء الصفی الأسبوع الحادي عشر (11)

First: Algebra:

1) Mention two points that belong to the solution set of the inequality: $y - 2x < 2$ and two points that do not belong to it.

Two Points belongs $y - 2x < 2$

$(0, 0)$, $(0, 1)$

Two Points doesn't belong
 $(0, 3)$, $(0, 4)$

$y - 2x < 2$

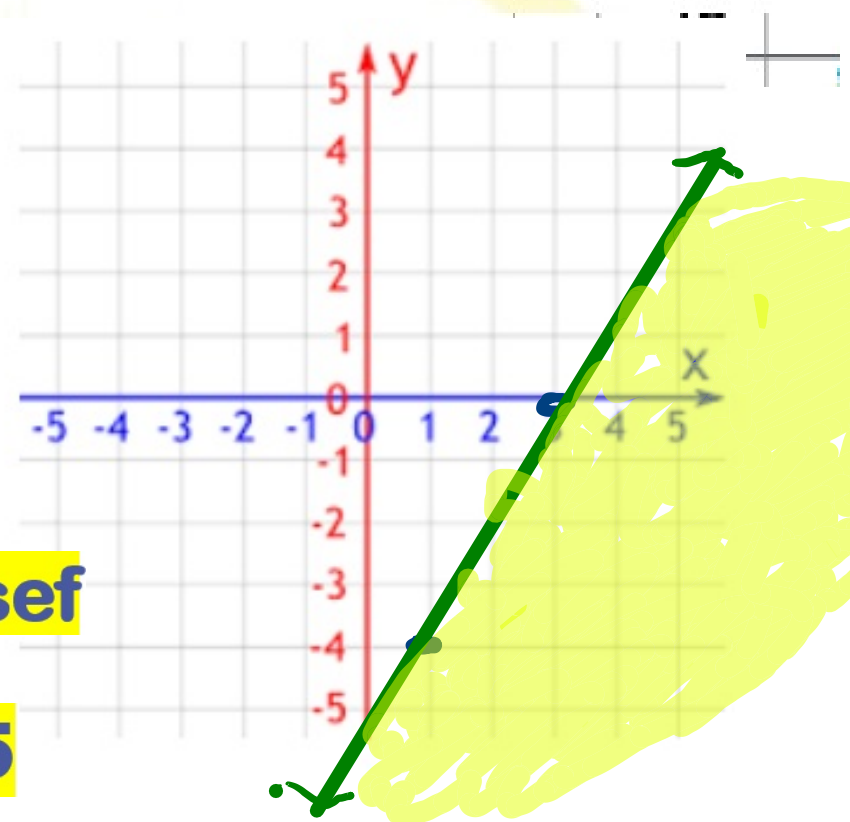
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2) Represent graphically the solution set of the inequality $2x - y \geq 6$ in the coordinate plane $\mathbb{R} \times \mathbb{R}$.

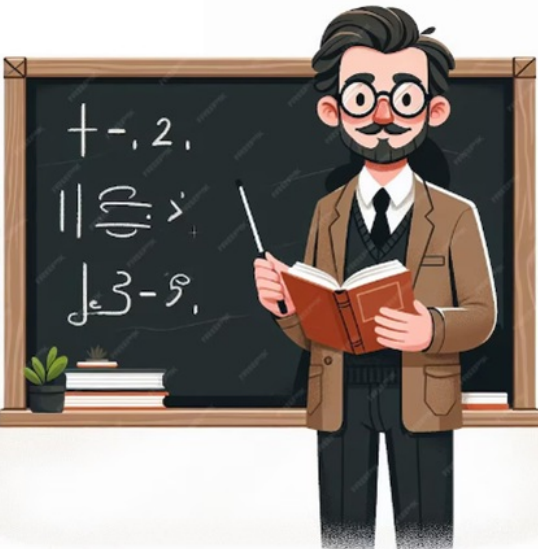
$$2x - y = 6$$

4	1	3
4	-4	0



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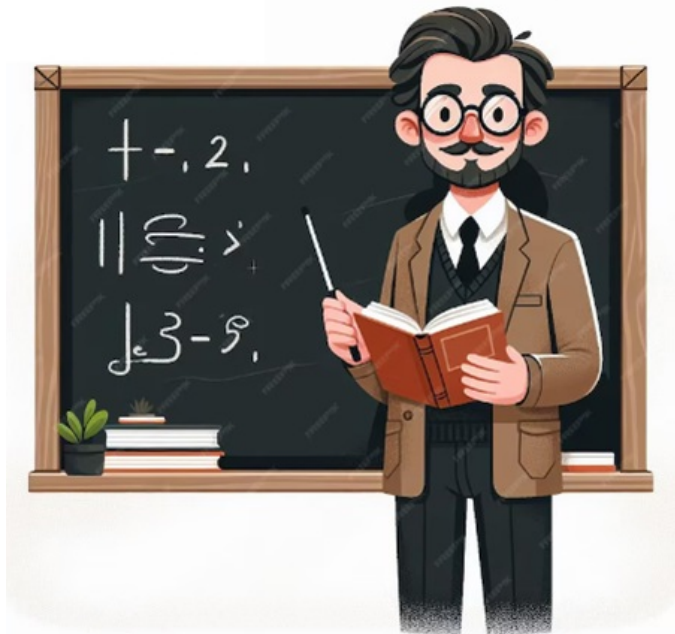
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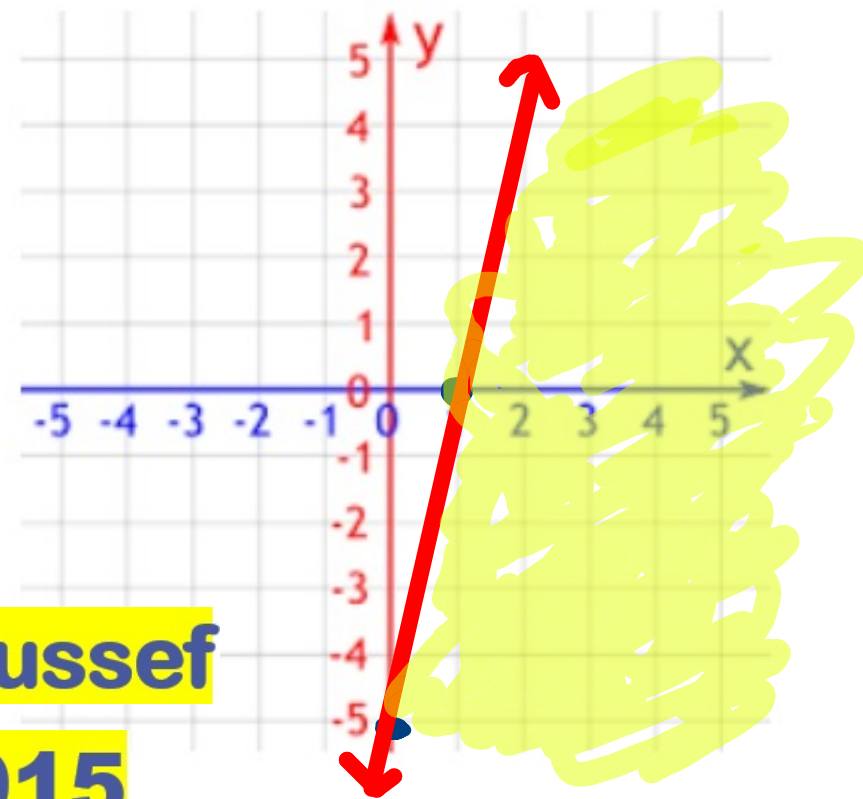
3) Represent graphically the solution set of the inequality $y < 5x - 5$ in the coordinate plane $\mathbb{R} \times \mathbb{R}$.

$$y = 5x - 5$$

+	0	-
y	-5	0



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4) Write the inequality that satisfies the solution set of the shaded area in the figure opposite.

$$(0, 1) \text{ and } (1, 2)$$

$$\text{slope} = \frac{2-1}{1-0} = 1$$

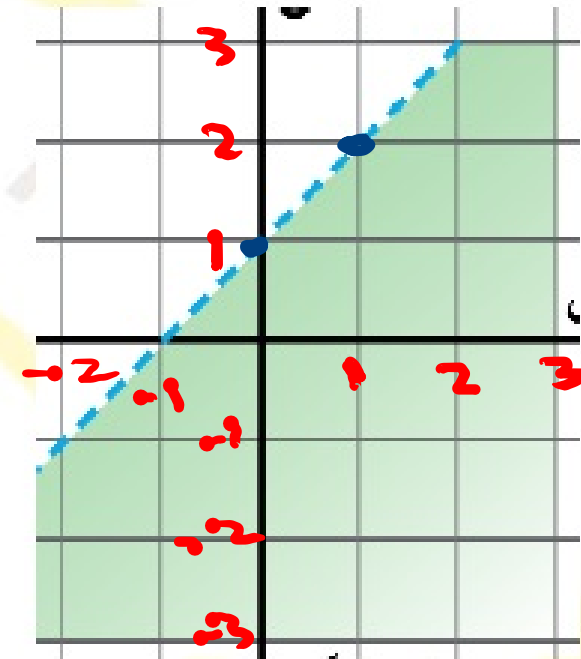
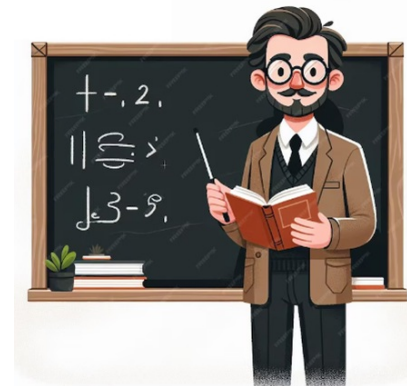
$$y = mx + c$$

$$y = x + 1$$

$$y < x + 1$$

inequality

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Second: Trigonometry:

5) Find the area of a circular segment with a radius of 10 cm. and the measure of its angle 2.2^{rad} approximate the answer to the nearest two decimal places.

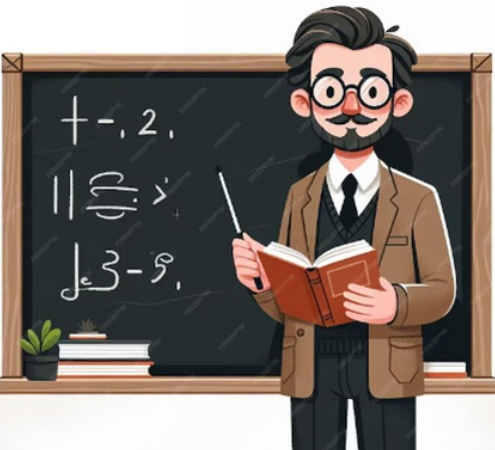
$$\text{Area} = \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta)$$

$$= \frac{1}{2} \times 10^2 (2.2 - \sin 126.05)$$

$$= 69.575 \text{ cm}^2$$

$$\frac{\theta^{\circ}}{180} = \frac{2.2}{\pi}$$

$$\theta = 126.05$$



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6) Find the area of the circular segment whose radius is 8 cm length and the measure of its angle is equal to 135° .

$$\text{Area} = \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta)$$

$$= \frac{1}{2} \times 8^2 \left(\frac{135}{180} \pi - \sin 135 \right)$$

$$= 52.77 \text{ cm}^2$$



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$$\frac{\theta^\circ}{180} = \frac{\theta^{\text{rad}}}{\frac{22}{14}}$$

$$\theta^\circ = 90$$

7) Find the area of the circular segment whose radius is 14 cm length and its arc length is 22 cm.

$$\theta^{\text{rad}} = \frac{L}{r}$$

$$= \frac{22}{14}$$

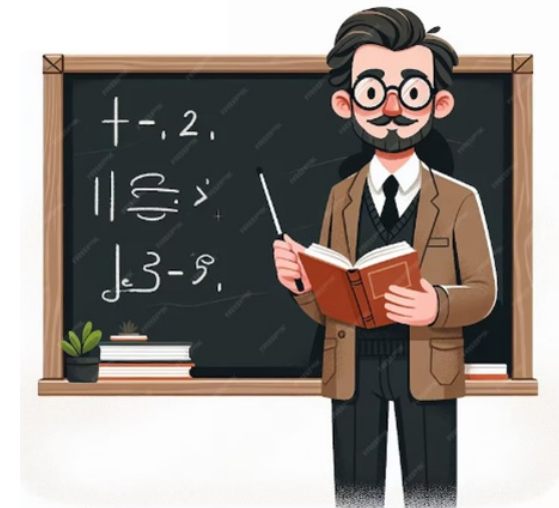
$$A_{\text{seg}} = \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta)$$

$$= \frac{1}{2} \times 14^2 \left(\frac{22}{14} - \sin 90 \right)$$

$$= 56 \text{ cm}^2$$

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8) Find the area of the largest circular segment whose chord is equal to the length of the radius of its circle, which is equal to 12 cm.

$$\begin{aligned}
 \text{Area} &= \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta) \\
 &= \frac{1}{2} \times 12^2 \left(\frac{300}{180} \pi - \sin 300 \right) \\
 &= 439.34 \text{ cm}^2
 \end{aligned}$$



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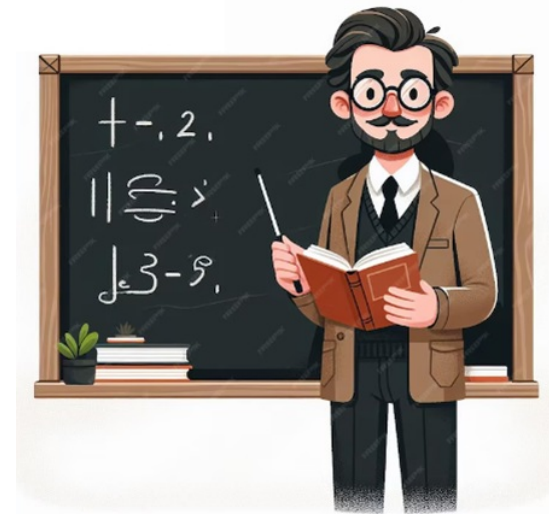
Third: Geometry:

9) Find the length of the perpendicular drawn from the point (1 , 1) to the straight line $x + y = 0$.

$$L = \frac{|1 + 1|}{\sqrt{1^2 + 1^2}}$$

$$= \sqrt{2} \quad \text{length unit}$$

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10) Find the length of the perpendicular from the point $(2, -5)$ to the straight line $\vec{r} = (-1, 0) + k(12, 5)$.

$$\text{slope} = \frac{5}{12}$$

$$y - 0 = \frac{5}{12} (x + 1)$$

$$12y = 5x + 5$$

$$12y - 5x - 5 = 0$$

$$L = \frac{|12(-5) - 5(2) - 5|}{\sqrt{12^2 + 5^2}}$$

$$\approx 5.77 \text{ cm}$$

First: Algebra:

1) Mention two points that belong to the solution set of the inequality $2y + 2x < 4$ and two points that do not belong to it.

Two points belong

$(0, 0)$, $(0, 1)$

Two points doesn't belong

$(0, 3)$, $(0, 4)$

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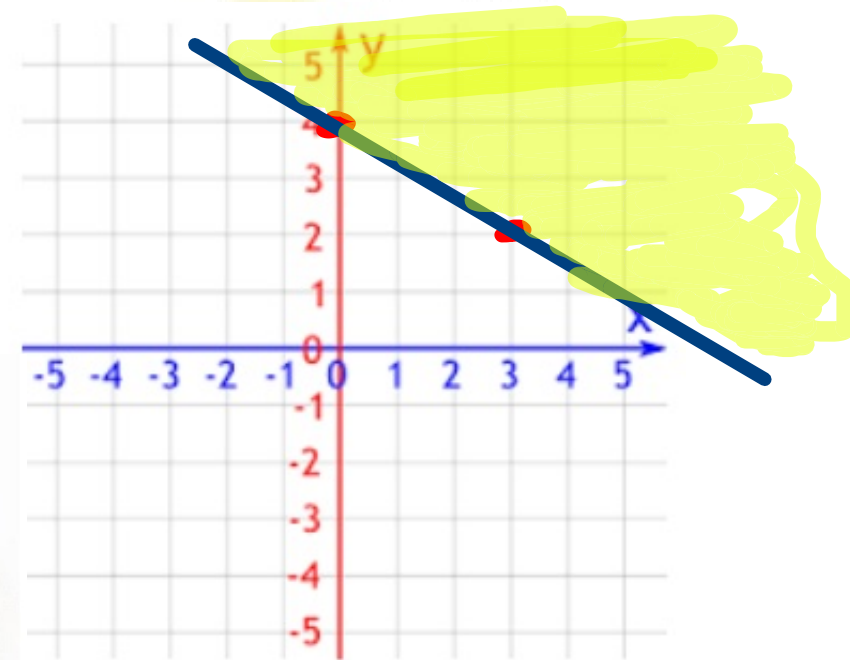
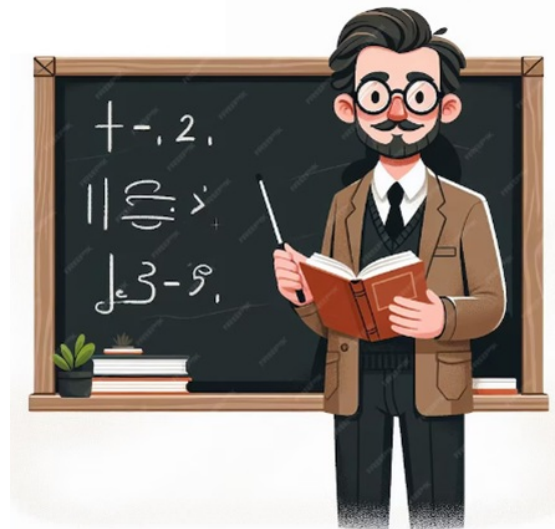
2) Represent graphically the solution set of the inequality $2x + 3y \geq 12$ in the coordinate plane $\mathbb{R} \times \mathbb{R}$.

$$2x + 3y = 12$$

x	0	3
y	4	2

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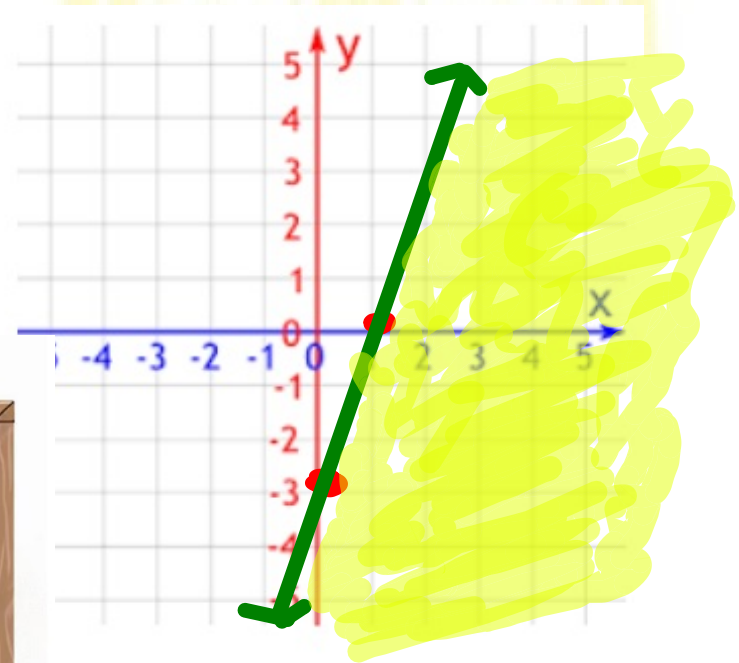
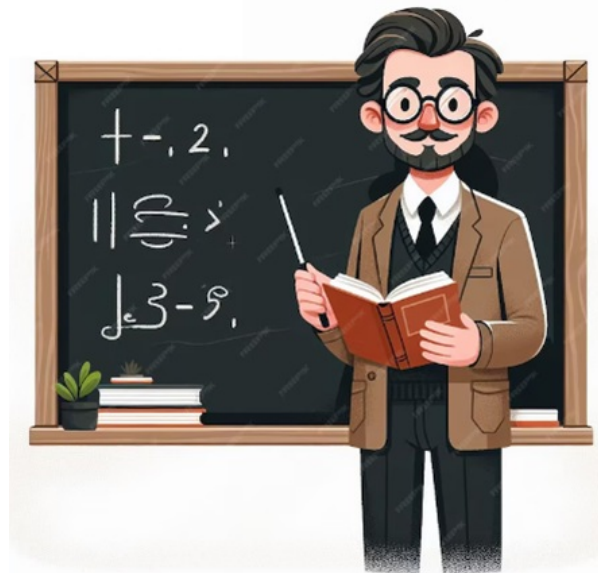
3) Represent graphically the solution set of the inequality $y < 3x - 3$ in the coordinate plane $\mathbb{R} \times \mathbb{R}$.

$$y = 3x - 3$$

x	0	1
y	-3	0

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4) Write the inequality that satisfies the solution set of the shaded area in the figure opposite.

$$(-1, 0), (0, 1)$$

$$\text{slope} = \frac{1-0}{0-(-1)} = 1$$

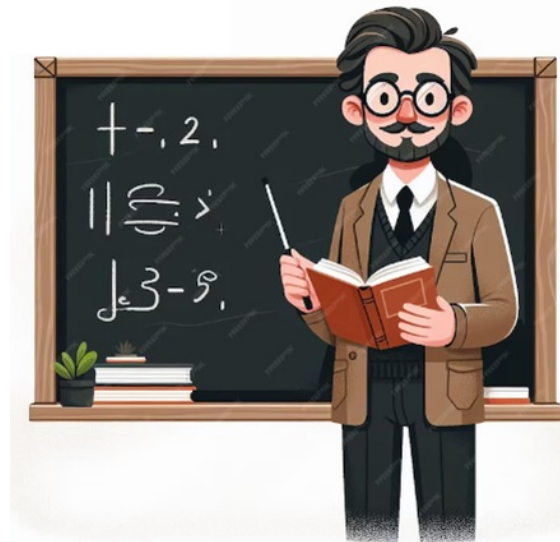
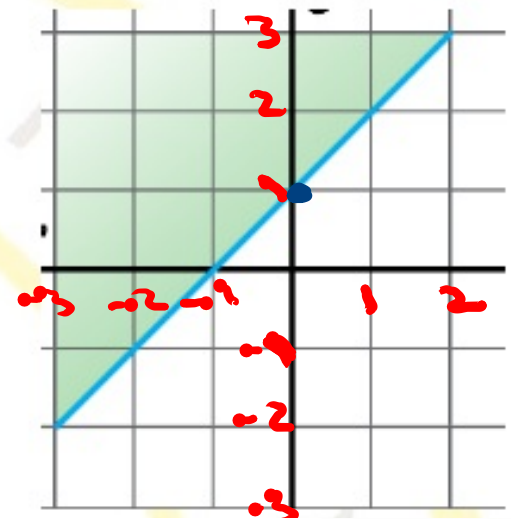
$$y = mx + c$$

$$y = x + 1$$

$$y > x + 1$$

Inequality

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Second: Trigonometry:



5) Find the area of a circular segment with a radius of 8 cm. and the measure of its angle 1.3^{rad} approximate the answer to the nearest two decimal places.

$$\frac{\theta^{\circ}}{180} = \frac{1.3}{\pi}$$

$$\theta^{\circ} = 74.48^{\circ}$$

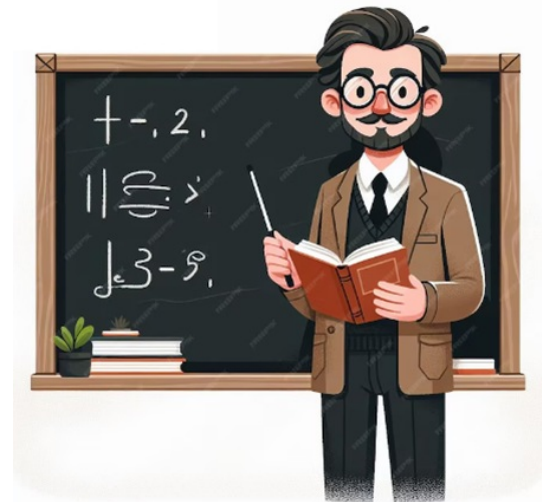
$$\text{Area} = \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta)$$

$$= \frac{1}{2} \times 8^2 (1.3 - \sin 74.48^{\circ})$$

$$= 10.76 \text{ cm}^2$$

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6) Find the area of the circular segment whose radius is 10 cm length and the measure of its angle is equal to 90° .

$$\begin{aligned} \text{Area} &= \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta) \\ &= \frac{1}{2} \times 10^2 \left(\frac{90}{180} \pi - \sin 90 \right) \\ &= 28.54 \text{ cm}^2 \end{aligned}$$



7) Find the area of the circular segment whose radius is 7 cm length and its arc length is 11 cm.

$$\begin{aligned} \text{Area} &= \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta) \\ &= \frac{1}{2} \times 7^2 \left(\frac{11}{7} - \sin 90 \right) \\ &\approx 14 \text{ cm}^2 \end{aligned}$$

$$\frac{\theta^{\circ}}{180} = \frac{11}{7}$$

$$\theta \approx 90$$

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8) Find the area of the largest circular segment whose chord is equal to the length of the radius of its circle, which is equal to 9 cm.

$$\begin{aligned} \text{Area} &= \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta) \\ &= \frac{1}{2} \times 9^2 \left(\frac{300}{360} \pi - \sin 300 \right) \\ &\approx 247.13 \text{ cm}^2 \end{aligned}$$



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Third: Geometry:

9) Find the length of the perpendicular from the point (2 , 3) to the straight line $3x + 4y = 6$.

$$L = \frac{|3 \times 2 + 4 \times 3 - 6|}{\sqrt{3^2 + 4^2}}$$

$$= 2.4 \text{ length unit}$$

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10) Find the length of the perpendicular drawn from the point $(1, 3)$ to the straight line $\vec{r} = (2, 5) + k(3, 4)$.

$$\text{slope} = \frac{4}{3}$$

$$y - y_1 = m(x - x_1)$$

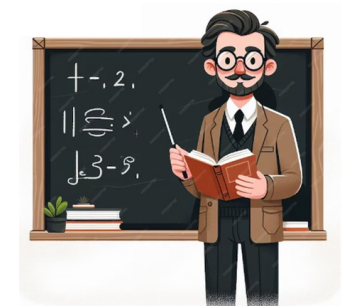
$$y - 5 = \frac{4}{3}(x - 2)$$

$$3y - 15 = 4x - 8$$

$$3y - 4x - 7 = 0$$

$$L = \frac{|3 \times 3 - 4 \times 1 - 7|}{\sqrt{3^2 + 4^2}}$$

$$= 0.4 \text{ length unit}$$



(11) الرياضيات لغات للصف الأول الثانوي التقييمات الأسبوعية الأسبوع الحادي عشر (11)

First group:

1) Mention two points that belong to the solution set of the inequality $y + 2x < 4$ and two points that do not belong to it.

Two Points belongs

$(0, 1)$, $(0, 2)$

Two Points doesn't belong

$(0, 5)$, $(0, 6)$



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3) Find the area of the circular segment whose radius is 6 cm length and the measure of its angle is equal to 60° .

$$\text{Area} = \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta)$$

$$= \frac{1}{2} \times 6^2 \left(\frac{60}{180} \pi - \sin 60 \right)$$

$$= 3.26 \text{ cm}^2$$

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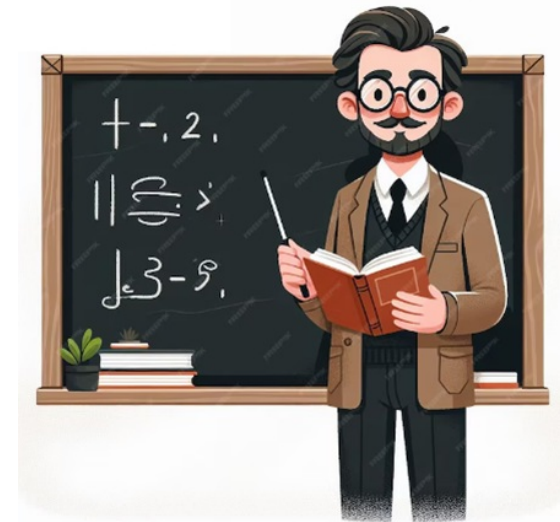


4) Find the length of the perpendicular from the point (2, 2) to the straight line $4x + 3y = 6$.

$$L = \frac{|4 \times 2 + 3 \times 2 - 6|}{\sqrt{4^2 + 3^2}}$$

$$= 1.6 \text{ length unit}$$

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5) Find the length of the perpendicular drawn from the point $(2, 0)$ to the straight line $\vec{r} = (1, 1) + k(5, 12)$.

$$\text{slope} = \frac{12}{5}$$

$$y - 1 = \frac{12}{5} (x - 1)$$

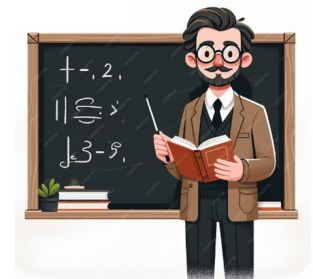
$$5y - 5 = 12x - 12$$

$$5y - 12x + 7 = 0$$

$$L = \frac{|5 \times 0 - 12 \times 2 + 7|}{\sqrt{5^2 + 12^2}}$$

$$\approx 1.31 \text{ length unit}$$

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Second group:

1) Mention two points that belong to the solution set of the inequality $3y - x < 3$ and two points that do not belong to it.

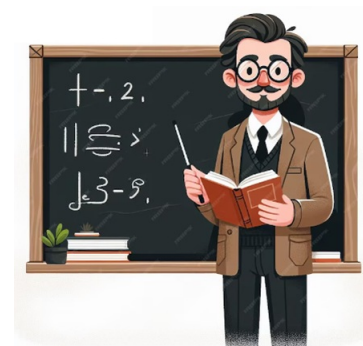
Two Points belongs

$(0, 0)$, $(0, -1)$

Two Points doesn't belong

$(0, 4)$, $(0, 5)$

Mr. Malak Youssef



2) Find the area of a circular segment with a radius of 3 cm. and the measure of its angle 2.1^{rad} approximate the answer to the nearest two decimal places.

$$\begin{aligned} \text{Area} &= \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta) \\ &= \frac{1}{2} \times 3^2 (2.1 - \sin 2.1) \\ &= 5.57 \text{ cm}^2 \end{aligned}$$

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3) Find the area of the circular segment whose radius is 5 cm length and the measure of its angle is equal to 30° .

$$\begin{aligned}
 \text{Area} &= \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta) \\
 &= \frac{1}{2} \times 5^2 \left(\frac{30}{180} \pi - \sin 30 \right) \\
 &= 0.29 \text{ cm}^2
 \end{aligned}$$

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4) Find the length of the perpendicular from the point $(3, -1)$ to the straight line $2x + y = 0$.

$$L = \frac{|2 \times 3 - 1|}{\sqrt{2^2 + 1^2}}$$

$$= \sqrt{5} \quad \text{length unit}$$



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5) Find the length of the perpendicular drawn from the point $(1, -1)$ to the straight line $\vec{r} = (3, 0) + k(4, 3)$.

$$\text{Slope} = \frac{3}{4}$$

$$y - y_1 = m(x - x_1)$$

$$y - 0 = \frac{3}{4}(x - 3)$$

$$4y = 3x - 9$$

$$4y - 3x + 9 = 0$$

$$L = \frac{|4x - 1 - 3x + 9|}{\sqrt{4^2 + 3^2}}$$

$$= 0.4 \quad \text{length unit}$$

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Third group:

1) Mention two points that belong to the solution set of the inequality $2y + 2x < 6$ and two points that do not belong to it.

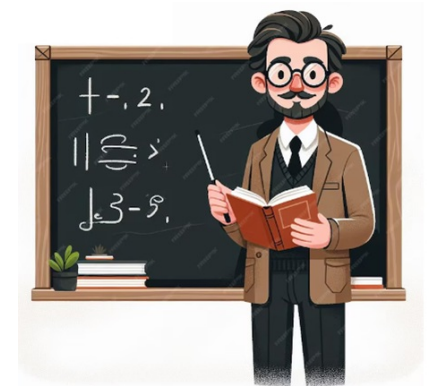
Two Points belongs

$(0,0)$, $(0,1)$

Two Points doesn't belong

$(0,6)$, $(0,7)$

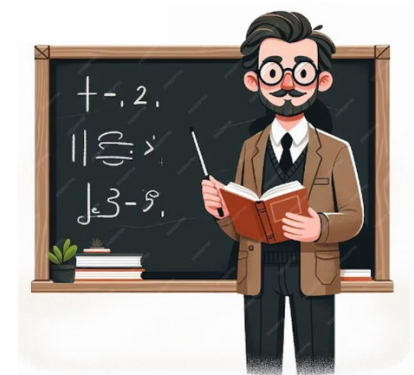
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3) Find the area of the circular segment whose radius is 3 cm length and the measure of its angle is equal to 45° .

$$\begin{aligned}
 \text{Area} &= \frac{1}{2} r^2 (\theta^{\text{rad}} - \sin \theta) \\
 &= \frac{1}{2} \times 3^2 \left(\frac{45}{180} \pi - \sin 45 \right) \\
 &\approx 0.35 \text{ cm}^2
 \end{aligned}$$

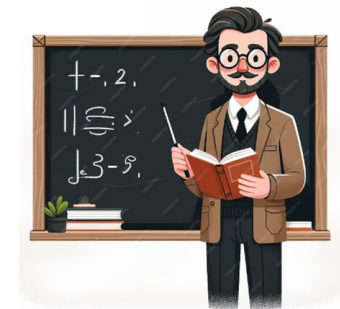
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4) Find the length of the perpendicular from the point (1, 1) to the straight line $x + y = 0$.

$$L = \frac{|1 + 1|}{\sqrt{1^2 + 1^2}}$$

$$= \sqrt{2} \quad \text{length unit}$$



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5) Find the length of the perpendicular drawn from the point $(2, 5)$ to the straight line $\vec{r} = (1, 0) + k(3, 4)$.

$$\text{Slope} = \frac{4}{3}$$

$$y - y_1 = m(x - x_1)$$

$$y - 0 = \frac{4}{3}(x - 1)$$

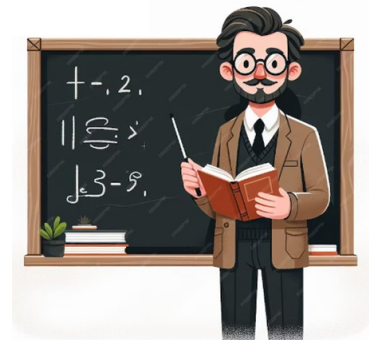
$$3y = 4x - 4$$

$$3y - 4x + 4 = 0$$

$$L = \frac{|3 \times 5 - 4 \times 2 + 5|}{\sqrt{3^2 + 4^2}}$$

$= 2.2$ length unit

Mr. Malak Youssef



كيفية طباعة صفحات معينة من ملف معين مثلا ازاي نطبع الصفحات من صفحة 4 الى صفحة 9

